Author Index to Volume 34

References with (L) are Letters to the Editor; (C) to Communications; (E) to Errata. It will be noted that there are no references to "see someone else" in the Author Index. Although it has meant a little duplication, there have been included under each author all articles in which he was author or co-author. All articles in which the author has participated are arranged under his name in alphabetical order.

Aagard, R. L.
Determination of R_1 linewidths in ruby using a pulsed ruby laser, R. L. Aagard—3631(C)

Abeles, B.
Efficiency calculations of thermoelectric generators with temperature varying parameters, R. W. Cohen and B. Abeles—1687

Abowitz, G.
Ultrasonic attenuation in single-crystal cadmium, G. Abowitz—1503

Abrahams, Marvin S.
Electric-field-enhanced precipitation of Li in Ge, Joseph Blanc and Marvin S. Abrahams—3638(C)

Abrahamson, G. R.
Penetration by shaped charge jets of nonuniform velocity, G. R. Abrahamson and J. N. Goodier—195

Adams, K. H.
Dislocations and etch figures in high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—591
Etching of high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—587

Aftergut, Siegfried
Photoplastic recording, Joseph Gaynor and Siegfried Aftergut—2102(C)

Aharoni, Amikam
Upper and lower bounds for the nucleation field in an infinite rectangular ferromagnetic cylinder, Amikam Aharoni—2434

Ahmed, H.
Thermionic emission from dispenser cathodes, H. Ahmed and A. H. W. Beck—997(C)

Ahn, Kie Y.
A new magnetic-film dispersion measurement, Walter Beam and Kie Y. Ahn—1561(C)

Ainslie, N. G.
Role of oxygen in reducing silicon contamination of GaAs during crystal growth, J. F. Woods and N. G. Ainslie—1469

Akao, Yasuo
Resonance of surface waves on a cylindrical plasma column, Yasuo Akao and Yoshio Ida—2119(C)

Akimoto, Kazou
Hardening of potassium chloride single crystals by quenching and irradiation, Kazou Akimoto and W. A. Sibley—1767

Alexandrakis, G. C.
Modulation of carrier surface lifetime and the time constants of surface states in Si, G. C. Alexandrakis and G. C. Dousmanis—3077

Allison, Herbert W.
Solubility and diffusion of zinc in gallium phosphide, Herbert W. Allison—231

Alred, A. T.
Ferromagnetism in V–Fe and Cr–Fe alloys, M. V. Nevitt and A. T. Alred—463

Amateau, M. F.
Plastic deformation in magnesium oxide crystals subjected to rolling-contact stresses, M. F. Amateau and J. W. Spretnak—2340

Amelinckx, S.
Some preliminary results on defects in irradiated UO_2 single crystals as revealed by transmission electron microscopy, H. Blank and S. Amelinckx—2200

Anderson, Franklin R.
Ion-bombardment etching of synthetic fibers. II, Franklin R. Anderson—2371

Anderson, G. S.
Atom ejection in low energy sputtering of single crystals of bcc metals, G. S. Anderson—659
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin—3492

Anderson, J.
Work function and thermal desorption in the system thorium-on-rhenium, J. Anderson, W. E. Danforth, and A. J. Williams, III—2260

Andreatch, P., Jr.
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Andreatch, Jr.—651

Ang, Choh-Yi
Internal friction in beryllium, Choh-Yi Ang and Kenneth T. Kamber—3405(C)

Anno, James N.
Secondary electron production from alpha particles emerging from gold, James N. Anno—3495

Antler, Morton
Metal transfer and the wedge forming mechanism, Morton Antler—438(C)

Antoniak, Charles E.
Symmetry limitations to polarization of polycrystalline ferroelectrics, R. Daniel Redin, Graham W. Marks, and Charles E. Antoniak—600

Arajs, Sigurds
Electrical resistivity of scandium, R. V. Colvin and Sigurds Arajs—286
Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668

Arnold, Kark M.
Cylindrical GaAs laser diode, K. M. Arnold and Sumner Mayburg—3136(C)

Artley, J. L.
Prediction of Curie temperatures in ternary Fe–Co–Ni alloys, J. L. Artley, T. C. Pilkington, and F. T. Wooten—972

Asay, Jeanette
Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261

Ashkin, A.
Reflection and guiding of light at p–n junctions, A. Ashkin and M. Gershenzon—2116(C)

Ashner, J. D.
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389

Atack, D.
Dynamics of a viscoelastic wear particle between sliding surfaces, W. D. May, E. L. Morris, and D. Atack—1920

Attard, Alfred E.
Electron density distribution in indium antimonide, Alfred E. Attard and Leonid V. Azaroff—774
Thermally activated dislocation kink motion in silicon, P. D. Southgate and A. E. Attard—855

AuCoin, T. R.
Metallic scattering centers in $CaWO_4$ laser crystals, J. R. Shappirio, T. R. AuCoin, and J. G. Gualtieri—3643(C)

Aukerman, L. W.
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590

Auld, B. A.
Coupling of electromagnetic and magnetostatic modes in ferrite-loaded cavity resonators, B. A. Auld—1629
Coupling of electromagnetic and quasi-static modes in plasma loaded waveguides, B. A. Auld and J. C. Eidson —478
Parametric coupling of the magnetization and strain in a ferrimagnet. I. Parametric excitation of magnetostatic and elastic modes, R. L. Comstock and B. A. Auld—1461
Pumping effects contributing to the excitation of phonon instabilities in ferromagnetic insulators, B. A. Auld, R. E. Tokheim, and D. K. Winslow—2281

Auld, F. A.
Electromagnetic shock waves in gyromagnetic media, W. B. Hatfield and F. A. Auld—2941

Austerman, S. B.
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339

Axe, J. D.
Spectral characteristics of GaAs lasers operating in "Fabry–Perot" modes, P. P. Sorokin, J. D. Axe, and J. R. Lankard—2553

Azaroff, Leonid V.
Electron density distribution in indium antimonide, Alfred E. Attard and Leonid V. Azaroff—774

Babcock, G. D.
Compositional and angular dependence of the magnetostriction of thin iron–nickel films, E. N. Mitchell, G. I. Lykken, and G. D. Babcock—715

Bacigalupi, Robert J.
Effect of magnetic field on iron whisker growth, Robert J. Bacigalupi—999(C)

Bady, I.
Spin-wave instability in hexagonal ferrites with a preferential plane, E. Schlömann, R. I. Joseph, and I. Bady—672

Bailey, G. C.
In-pile Hall coefficient and conductivity measurements on zone refined, p-type silicon, G. C. Bailey and C. M. Williams—1935

Bailey, L. Evan
Fluorescent yield in the phosphor NE-102 for x rays from 4 to 17 keV, L. Evan Bailey—3008

Baker, G. S.
Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Effect of pressure on creep in tin, K. L. DeVries, G. S. Baker, and P. Gibbs—2258
Pressure dependence of the creep of lead, K. L. DeVries, G. S. Baker, and P. Gibbs—2254

Balchan, A. S.
A radiographic study of shock-loaded iron, A. S. Balchan —241

Ballman, A. A.
Calcium niobate $Ca(NbO_3)_2$—a new laser host crystal, A. A. Ballman, S. P. S. Porto, and A. Yariv—3155

Balluffi, R. W.
On strain-enhanced diffusion in metals. I. Point defect models, R. W. Balluffi and A. L. Ruoff—1634
Strain-enhanced diffusion in metals. II. Dislocation and grain-boundary short-circuiting models, A. L. Ruoff and R. W. Balluffi—1848
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi —2862

Baltz, Alfred
Influence of vacuum conditions on epitaxially grown Permalloy films, Alfred Baltz—1575

Bapat, N. J.
Interferometric study of the microtopography arising out of 90° domain walls in single crystals of barium titanate, V. G. Bhide and N. J. Bapat—181

Barker, R. E., Jr.
An approximate relation between elastic moduli and thermal expansivities, R. E. Barker, Jr.—107

Barnard, G.
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gagosz, and G. Barnard—453
Visual observation of piezoelectric modes, A. J. DeMaria and G. Barnard—2296

Barnes, Frank
Design and operation of xenon flashtubes, Arden Buck, Roger Erickson, and Frank Barnes—2115(C)

Barone, S. R.
Resonances of the Fabry–Perot laser, S. R. Barone—831

Barrie, J. A.
Diffusion of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—13
Solution of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—1

Basinski, Z. S.
Interacting partial dislocations in GaSe, Z. S. Basinski, D. B. Dove, and E. Mooser—469

Bateman, T. B.
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059

Batterman, Boris W.
A diffractometer study of long-range ordering in Ni_3Fe and associated Permalloys, R. G. Treuting and B. W. Batterman—2005
Contribution of thermal diffuse scattering to integrated Bragg reflections from perfect crystals, David R. Chipman and Boris W. Batterman—912
Impurity clustering effects on the anomalous transmission of x rays in silicon, J. R. Patel and B. W. Batterman —2716

Beam, Walter R.
A new magnetic-film dispersion measurement, Walter R. Beam and Kie Y. Ahn—1561

Beck, A. H. W.
Thermionic emission from dispenser cathodes, H. Ahmed and A. H. W. Beck—997(C)

Becker, Herbert
Effect of Poisson's ratio on thermal stresses, Herbert Becker—3151(C)

Beeken, Basil
Resonance phenomena in a gaseous discharge in a strong magnetic field, Basil Beeken, Robert Goldman, and Ludwig Oster—1430

Beeler, J. R., Jr.
Range and damage effects of tunnel trajectories in a wurtzite structure, J. R. Beeler, Jr., and D. G. Besco —2873

Bell, J. F.
Single, temperature-dependent stress–strain law for the dynamic plastic deformation of annealed face-centered cubic metals, J. F. Bell—134
Bell, R. L.
A proposal for a dc pumped rare-earth laser, R. L. Bell —1563(C)
Bellman, Richard
Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Bender, Malcolm F.
Extension of unoriented nylon 66 filaments, Malcolm F. Bender and Malcolm L. Williams—3330
Benedek, G. B.
Observation of the nuclear resonance in ferromagnetic iron to 65 000 atmospheres, J. D. Litster and G. B. Benedek—688
Ben-Sira, M. Y.
Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207
Benson, C. T.
Approximation of an ideal dipole with a solenoid, C. T. Benson—3136(C)
Benz, M. G.
"Coil simulation" testing of niobium–tin wire samples, C. H. Rosner, M. G. Benz, and D. L. Martin—2108(C)
Berard, Michael F.
Self-diffusion in polycrystalline yttrium oxide, Michael F. Berard and D. R. Wilder—2318
Berger, Harold
Resolution study of photographic thermal neutron image detectors, Harold Berger—914
Bergsnow-Hansen, Björn
A dynamic method for measuring total emissivities and specific heats of electrical conductors, R. A. Pasternak, H. U. D. Wiesendanger, and Björn Bergsnow-Hansen —3416(C)
Berlincourt, D. A.
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—3154(E)
Bernard, W.
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid —669
Bernstein, B. T.
Elastic constants of synthetic sapphire at 27°C, B. T. Bernstein—169
Berry, J. P.
Determination of fracture surface energies by the cleavage technique, J. P. Berry—62
Besco, D. G.
Range and damage effects of tunnel trajectories in a wurtzite structure. J. R. Beller, Jr., and D. G. Besco —2873
Beshers, D. N.
Damping spectrum of iron, D. P. Petarra and D. N. Beshers—2739
Bessa, F. A.
Observations on work-hardening and fracture of pure polycrystalline zinc in tension, B. Kamel and F. A. Bessa —1881
Beuhler, W. J.
Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475
Bhide, V. G.
Interferometric study of the microtopography arising out of 90° domain walls in single crystals of barium titanate, V. G. Bhide and N. J. Bapat—181
Structure of subdivided Bloch walls, V. G. Bhide and G. K. Shenoy—1778
Bienenstock, Arthur
Calculation of crystallite size distributions from x-ray line broadening, Arthur Bienenstock—1391
Bierlein, T. K.
Dislocation channeling in neutron-irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)
Bills, D. G.
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
Birch, Francis
Elastic constants of pyrite, Gene Simmons and Francis Birch—2736
Birdsall, Charles K.
Space-charge instabilities in electron diodes. II, William B. Bridges and Charles K. Birdsall—2946
Birman, J. L.
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Birnbaum, George
Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Birnbaum, Howard K.
Formation of point defects during plastic deformation and their subsequent annealing behavior, Howard K. Birnbaum—2175
Birnbaum, Milton
Mode selection properties of segmented rod lasers, Milton Birnbaum and Tom L. Stocker—3414(C)
Black, J.
Dependence of recombination radiation on current in GaAs diodes, S. Mayburg and J. Black—1521
Recombination radiation in GaAs, J. Black, H. Lockwood, and S. Mayburg—178
Blanc, J.
Electric-field-enhanced precipitation of Li in Ge, Joseph Blanc and Marvin S. Abrahams—3638(C)
Measurements of the density of GaAs, L. R. Weisberg and J. Blanc—1002(C)
Blank, H.
Some preliminary results on defects in irradiated UO_2 single crystals as revealed by transmission electron microscopy, H. Blank and S. Amelinckx—2200
Blau, E. J.
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schulz—703(C)
Blicher, A.
Breakdown voltage of graded gallium arsenide *p–n* junctions, H. Kressel and A. Blicher—2495(C)
Bloom, S.
Noise on a drifting Maxwellian beam, Stanley Bloom and Bayram Vural—356
Space-charge-wave decay along a signal-current-excited multivelocity beam, S. Bloom and B. Vural—2007

Bobb, L. C.
Electrical resistivity of thin single-crystal gold films, K. L. Chopra, L. C. Bobb, and M. H. Francombe—1699
Bockemuehl, Robert R.
Ion drift equilibrium in a semiconductor, Robert R. Bockemuehl and David S. Eddy—1529
Temperature dependence of free hole density in cadmium sulfide, R. R. Bochemuehl—709(C)
Bond, H. E.
Decoration of dislocations in aluminum oxide, H. E. Bond and K. B. Harvey—440(C)
Boom, Roger W.
Study of the transition of small niobium–zirconium superconducting solenoids to the normal state, Roger W. Boom and Louis D. Roberts—2422
Borg, Richard J.
Comments on the article "Diffusion in cobalt–nickel alloys," Richard J. Borg—1562(C)
Borghi, R. P.
Paraxial solutions for accelerated and decelerated axially symmetric space-charge flow, R. P. Borghi and D. A. Dunn—692
Boyd, E. L.
Sublattice magnetizations in rare-earth garnets, E. L. Boyd, V. L. Moruzzi, and J. S. Smart—3049
Boyd, G. D.
Comments on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)
Boye, C. A.
Wide-line nuclear magnetic resonance studies of poly(ethylene terephthalate), C. A. Boye and V. W. Goodlett—59
Bradley, D. L.
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Brady, James J.
Effect of gas flow on the microwave dielectric breakdown of oxygen, John G. Skinner and James J. Brady—975
Brand, F. A.
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Brandewie, R. A.
Plasma pinch excitation of a ruby laser, R. A. Brandewie, J. S. Hitt, and J. M. Feldman—3415(C)
Brandt, B. L.
Magnetic domains in orthoferrites by the Kerr effect, C. A. Fowler, Jr., E. M. Fryer, B. L. Brandt, and R. A. Isaacson—2064
Brandt, R. C.
Dislocations and etch figures in high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr—591
Etching of high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—587
Braslau, Norman
Observation of an optical difference frequency, Archibald W. Smith and Norman Braslau—2105(C)
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500
Braun, I.
Resistance of elastically deformed shallow p–n junctions. II, W. Rindner and I. Braun—1958
Breitschwerdt, K. G.
Direct and indirect tunneling in germanium at different temperatures, K. G. Breitschwerdt—2610
Bridges, William B.
Space-charge instabilities in electron diodes. II, William B. Bridges and Charles K. Birdsall—2946
Brinkerhoff, J.
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Brittain, J. O.
Point-defect relaxation in rutile single crystals, R. D. Carnahan and J. O. Brittain—3095
Brockway, L. O.
Microstructure of thin single crystals of copper, L. O. Brockway and Robert B. Marcus—921
Bronisz, S. E.
Absorption contrast effect in bcc metals, S. E. Bronisz and Dana L. Douglass—713
Brophy, James J.
Fluctuations in hot tungsten filaments, James J. Brophy —1890
Brophy, V. A.
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Brower, W. S.
A note on domain conversion of $BaTiO_3$, P. H. Fang and W. S. Brower—1516
Brown, R. G.
Infrared spectra of polyethylene crystals, R. G. Brown —2382
Brown, William Fuller, Jr.
Nucleation fields of an infinitely long square ferromagnetic prism, William Fuller Brown, Jr.—1004(E)
Bube, Richard H.
Pulse excitation studies of gain and trapping in photoconductors, Richard H. Bube—3310
Buchal, Robert N.
Impedance between perfect conductors in a finitely conducting medium with application to composite media, Robert N. Buchal and Joseph B. Keller—3414(C)
Buck, Arden
Design and operation of xenon flashtubes, Arden Buck, Roger Erickson, and Frank Barnes—2115(C)
Budo, Y.
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, and J. R. Priest—3262
Stress anisotropy in silicon oxide films, J. Priest, H. L. Caswell, and Y. Budo—347
Buessem, Wilhelm R.
Magnetization of manganese ferrite, Sidney R. Butler and Wilhelm R. Buessem—1754
Bullis, W. Murray
Minority carrier thermoelectric cooling, W. Murray Bullis —1648
Butler, Sidney R.
Magnetization of manganese ferrite, Sidney R. Butler and Wilhelm R. Buessem—1754
Burlage, S. R.
Some dielectric and optical properties of KD_2PO_4, T. R. Sliker and S. R. Burlage—1837
Burmeister, R. A.
Concerning an intermediate phase in the Ag–Sb–Te system, R. A. Burmeister and D. A. Stevenson—1833(C)
Burns, Gerald
Quantum efficiency of ruby, Gerald Burns and Marshall I. Nathan—703(C)
Butera, Richard A.
Internal friction in the vanadium–hydrogen system, Richard A. Butera and Per Kofstad—2172
Internal friction in the tantalum–hydrogen system, Per Kofstad and Richard A. Butera—1517

Bylander, E. G.
Source of acceptors in low-resistivity vacuum-deposited germanium films, E. G. Bylander, J. R. Piedmont, L. D. Shubin, and R. C. Smith—3407(C)

Cahn, John W.
Magnetic aging of spinodal alloys, John W. Cahn—3581
Calawa, A. R.
Injection electroluminescence in gallium antimonide, A. R. Calawa—1660
Cambel, Ali Bulent
Surface ionization of potassium on tungsten, John F. Wendt and Ali Bulent Cambel—176
Cambey, L. A.
Mass analysis of sputtered particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Campbell, D. A.
Temperature transients in oxide-coated cathodes during pulsed operation, D. A. Campbell and W. G. Shepherd —2473
Cannara, A. B.
Dipole resonances of a plasma in a magnetic field, F. W. Crawford, G. S. Kino, and A. B. Cannara—3168
Cape, J. A.
Temperature and finite pulse-time effects in the flash method for measuring thermal diffusivity, J. A. Cape and G. W. Lehman—1909
Transient thermal diffusivity technique for refractory solids, J. A. Cape, M. M. Nakata, and G. W. Lehman —3550
Cardona, Manuel
Absorption spectrum of germanium and zinc-blende-type materials at energies higher than the fundamental absorption edge, Manuel Cardona and Günther Harbeke —813
Carlson, R. O.
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
Carlston, C. E.
Sputtering yields of single crystals bombarded by 1 to 10 keV Ar^+ ions, G. D. Magnuson and C. E. Carlston —3268
Carnahan, R. D.
Point-defect relaxation in rutile single crystals, R. D. Carnahan and J. O. Brittain—3095
Carr, William N.
Energy band parameters of germanium indicated by tunnel diode reverse characteristics, William N. Carr—2467
Carruthers, J. R.
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389
Casella, R. C.
A criterion for exciton binding in dense electron-hole systems—application to line narrowing observed in GaAs, R. C. Casella—1703
Caswell, H. L.
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, and J. R. Priest—3262
Stress anisotropy in silicon oxide films, J. Priest, H. L. Caswell, and Y. Budo—247
Cerceo, M.
Thermal diffusivity by electron bombardment heating, M. Cerceo and H. M. Childers—1445
Cercignani, C.
Flow of a rarefied gas between two parallel plates, C. Cercignani and A. Daneri—3509
Chadderton, L. T.
Tracks in fission-fragment-bombarded lead iodide, L. T. Chadderton, H. M. Montagu-Pollock, and I. McC. Torrens—3090
Chandrasekhar, B. S.
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Chang, K. K. N.
High-field study of a Hall-effect microwave converter, K. K. N. Chang and R. D. Hughes—777
Chang, N. C.
Fluorescence and stimulated emission from trivalent europium in yttrium oxide, N. C. Chang—3500
Chang, Roger
Elastic constants of UC, L. J. Graham, N. Nadler, and R. Chang—1572(C)
Electrical resistivity changes of Al_2O_3 crystals during creep, Roger Chang—1564(C)
Chang, Y. F.
Abrupt vs diffused semiconductor junctions, Y. F. Chang and H. W. Thompson, Jr.—3137(C)
Switch-on transients in *p–n* junctions, Y. F. Chang—2056
Chance, D. A.
Effect of illumination on the electrode potential of copper single crystals in water, D. A. Chance and Ken Nobe —1824(C)
Chao, C. C.
CsCl-type compounds in binary alloys of rare-earth metals with gold and silver, C. C. Chao, H. L. Luo, and P. Duwez—1971
Chapman, P. W.
Electrical properties of heavily doped silicon, P. W. Chapman, O. N. Tufte, J. D. Zook, and Donald Long—3292
Chaudhuri, A. R.
Grown-in dislocations in calcium tungstate crystals pulled from the melt, A. R. Chaudhuri and L. E. Phaneuf—2162
Macroscopic plastic properties of dislocation-free germanium and other semiconductor crystals. I. Yield behavior, J. R. Patel and A. R. Chaudhuri—2788
Velocities and densities of dislocations in germanium and other semiconductor crystals, A. R. Chaudhuri, J. R. Patel, and L. G. Rubin—240(E)
Chenette, E. R.
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and A. van der Ziel—2613
Cheney, G. T.
Heat-wave methods for the measurement of thermal diffusivity, M. Cutler and G. T. Cheney—1902
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—1714
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—3420(E)
Chessin, Henry
Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668
Chick, B.
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
Childers, H. M.
Thermal diffusivity by electron bombardment heating, M. Cerceo and H. M. Childers—1445
Chipman, David R.
Contribution of thermal diffuse scattering to integrated Bragg reflections from perfect crystals, David R. Chipman and Boris W. Batterman—912
Chopra, K. L.
Electrical resistivity of thin single-crystal gold films, K. L. Chopra, L. C. Bobb, and M. H. Francombe—1699

Chou, Y. T.
Characteristics of dislocation stress fields due to elastic anisotropy, Y. T. Chou—429
Interaction of parallel dislocations in a hexagonal crystal, Y. T. Chou—444(E)
Planar stress field of a dislocation in an anisotropic plate, Y. T. Chou—3608
Chow, C. K.
Effect of insulating-film-thickness nonuniformity on tunnel characteristics, C. K. Chow—2599
On tunneling equations of Holm and Stratton, C. K. Chow—2490(C)
Temperature dependence of BeO tunneling structures, C. K. Chow—2918(C)
Christenson, Elmer L.
Effects of transition metal solutes on the thermoelectric power of copper and gold, Elmer L. Christenson—1485
Chung, M. F.
Hillocks on sputtered Ge surfaces, D. Haneman and M. F. Chung—2488(C)
Clark, A. E.
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Cline, H. E.
Niobium-thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Coble, R. L.
A model for boundary diffusion controlled creep in polycrystalline materials, R. L. Coble—1679
Cohen, Mitchell S.
Influence of anisotropy dispersion on magnetic properties of Ni-Fe films, Mitchell S. Cohen—1841
Cohen, R. W.
Efficiency calculations of thermoelectric generators with temperature varying parameters, R. W. Cohen and B. Abeles—1687
Colburn, D. S.
First-order space-charge correction, D. S. Colburn and G. S. Kino—1568(C)
Coleman, P. D.
Photoconductive mixing in CdSe single crystals, O. Svelto, P. D. Coleman, and M. DiDomenico, Jr.—3182
Colvin, R. V.
Electrical resistivity of scandium, R. V. Colvin and Sigurds Arajs—286
Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668
Comeaux, A. R.
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Comstock, R. L.
Generation of microwave elastic vibrations in a disk by ferromagnetic resonance, R. L. Comstock and R. C. LeCraw—3022
Parametric coupling of the magnetization and strain in a ferrimagnet. I. Parametric excitation of magnetostatic and elastic modes, R. L. Comstock and B. A. Auld—1461
Parametric coupling of the magnetization and strain in a ferrimagnet. II. Parametric excitation of magnetic and elastic plane waves, R. L. Comstock—1465
Conroy, J. J.
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
Conzemius, Robert J.
Improvement of the ion transmission in a typical mass spectrometer ion source, Robert J. Conzemius and Harry J. Svec—2486(C)
Cook, Melvin A.
Compressibility of solids and liquids at high pressures, Melvin A. Cook and Leo A. Rogers—2330
Cook, W. R., Jr.
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—3154(E)
Radiation damage and ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Cormack, A. M.
Representation of a function by its line integrals, with some radiological applications, A. M. Cormack—2722
Cormia, R. L.
Kinetics of melting and crystallization of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2239
Viscous flow and melt allotropy of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2245
Cornforth, A.
Paschen law and shock-excited breakdown in air, A. Cornforth and L. Jacob—2914(C)
Costa Ribeiro, Sergio
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes—3138(C)
Polarization of dielectrics by nuclear radiation. I. Release of space charge in electron irradiated dielectrics, Preston V. Murphy and Sergio Costa Ribeiro—2061
Coutts, M. C.
Decoration of imperfections on cleaved germanium, W. Mehl and M. C. Coutts—2120(C)
Coutts, M. D.
Surface decoration and domains in very thin magnetic films, M. D. Coutts and H. L. Pinch—2113(C)
Cowan, George R.
Flow configurations in colliding plates: explosive bonding, George R. Cowan and Arnold H. Holtzman—928
Cowan, Robert D.
Pulse method of measuring thermal diffusivity at high temperatures, Robert D. Cowan—926
Crawford, F. W.
A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Dipole resonances of a plasma in a magnetic field, F. W. Crawford, G. S. Kino, and A. B. Cannara—3168
Modulated Langmuir probe characteristics, F. W. Crawford—1897
Some measurements of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2196
Cressman, P. J.
New type of thermoplastic deformation, P. J. Cressman—2327
Creutz, E.
A new semiempirical equation for gas flow through capillaries, E. Creutz and L. R. Zumwalt—1573(E)
Crowther, Thomas S.
Angular and magnitude dispersion of the anisotropy in magnetic films, Thomas S. Crowther—580

Cruise, D. R.
A numerical method for determination of an electric field about a complicated boundary, D. R. Cruise—3477
Cuff, K. F.
Theory of the longitudinally isothermal Ettingshausen cooler, C. F. Kooi, R. B. Horst, K. F. Cuff, and S. R. Hawkins—1735
Cummerow, R. L.
High-temperature steady-state creep rate in single-crystal MgO, R. L. Cummerow—1724
Cunningham, R. L.
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Curran, Donald R.
Nonhydrodynamic attenuation of shock waves in aluminum, Donald R. Curran—2677
Curtis, O. L., Jr.
Effect of a phase transformation on the vapor phase growth of single-crystal HgS, O. L. Curtis, Jr.—1573(E)
Cutler, M.
Heat-wave methods for the measurement of thermal diffusivity, M. Cutler and G. T. Cheney—1902
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—1714
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—3420(E)

Damon, D. H.
Evidence for the existence of overlapping valence and conduction bands in SnTe, D. H. Damon, C. R. Martin, and R. C. Miller—3083
Daneri, A.
Flow of a rarefied gas between two parallel plates, C. Cercignani and A. Daneri—3509
Danforth, W. E.
Work function and thermal desorption in the system thorium-on-rhenium, J. Anderson, W. E. Danforth, and A. J. Williams, III—2260
Danno, Akibumi
Gamma-ray induced conductivity in polyethylene and Teflon under radiation at high dose rate, Kichinosuke Yahagi and Akibumi Danno—804
Davis, D. D.
Nuclear magnetic resonance studies of molecular motion in natural rubber, W. P. Slichter and D. D. Davis—98
Davis, Goebel, Jr.
Point contact diodes utilizing single-crystal reduced rutile titanium dioxide, Goebel Davis, Jr., and W. W. Grannemann—228
Davis, L. W.
Observation of continuous-wave optical harmonics, S. L. McCall and L. W. Davis—2921(C)
Davis, P. W.
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590
Davis, R. H.
Double barrier in thin-film triodes, R. H. Davis and H. H. Hosack—864
Davis, R. S.
Direct observation of the oxidation of aluminum single-crystal surfaces, P. E. Doherty and R. S. Davis—619
Dayal, Y.
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
DeGeeter, Dale J.
Photographic observations of a prebreakdown discharge transition between metal electrodes in vacuum, Dale J. DeGeeter—919
DeMaria, A. J.
Ultrasonic-diffraction shutters for optical maser oscillators, A. J. DeMaria—2984
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gagosz, and G. Barnard—453
Visual observation of piezoelectric modes, A. J. DeMaria and G. Barnard—2296
deMars, G.
Spectral output and spiking behavior of solid-state lasers, C. L. Tang, H. Statz, and G. deMars—2289
de Moraes, Rogerio J.
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes—3138(C)
Dempsey, Daniel F.
Focusing of neutral particle beams by fictitious force fields, Daniel F. Dempsey—3221
Denison, D. R.
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
Denton, R. T.
Elastic measurements on magnetic materials, R. T. Denton and E. G. Spencer—1832(C)
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059
Derby, Samuel E.
Full-plane threshold energies for cathode sputtering of metals with Ar^+ ions, Erich B. Henschke and Samuel E. Derby—2458
Dermit, G.
Preparation of crystalline germanium films on metals, O. A. Weinreich and G. Dermit—225
Detwiler, D. P.
An anomalous dissipation factor maximum in sapphire, N. M. Tallan and D. P. Detwiler—1650
De Vos, K. J.
Influence of milling upon the magnetic properties of the intermetallic compound MnAlGe, W. A. J. J. Velge and K. J. De Vos—3568
DeVries, K. L.
Effect of pressure on creep in tin, K. L. DeVries, G. S. Baker, and P. Gibbs—2258
Pressure dependence of creep in Zn and Cd, K. L. DeVries and P. Gibbs—3119
Pressure dependence of the creep of lead, K. L. DeVries, G. S. Baker, and P. Gibbs—2254
DiDomenico, M., Jr.
Photoconductive mixing of CdSe single crystals, O. Svelto, P. D. Coleman, and M. DiDomenico, Jr.—3182
Dietz, R. E.
Growth and decoration of ZnTe crystals, R. T. Lynch, D. G. Thomas, and R. E. Dietz—706(C)
Dillon, J. F., Jr.
Diffraction of light by domain structure in ferromagnetic $CrBr_3$, J. F. Dillon, Jr., and J. P. Remeika—637
Dinklage, J.
X-ray diffraction and diffusion in metal film layered structures, J. Dinklage and R. Frerichs—2633
Dixon, Samuel, Jr.
Effect of surface polishing on the linewidth and high-power properties of single-crystal spheres of ZnY, Samuel Dixon, Jr.—3441

Dixon, Thomas E.
Growth of manganous oxide whiskers, Thomas E. Dixon and Richard A. Kane—2774
Doherty, P. E.
Direct observation of the oxidation of aluminum single-crystal surfaces, P. E. Doherty and R. S. Davis—619
Donald, D. K.
Experiments on mercury–silicon surface barriers, D. K. Donald—1758
Donaldson, E. E.
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
Effects of glass contamination and electrode curvature on electrical breakdown in vacuum, E. E. Donaldson and M. Rabinowitz—319
Doran, D. G.
Hugoniot equation of state of pyrolytic graphite to 300 kbars, D. G. Doran—844
Douglass, Dana L.
Absorption contrast effect in bcc metals, S. E. Bronisz and Dana L. Douglass—713
Dousmanis, G. C.
Modulation of carrier surface lifetime and the time constants of surface states in Si, G. C. Alexandrakis and G. C. Dousmanis—3077
Dove, D. B.
Interacting parital dislocations in GaSe, Z. S. Basinski, D. B. Dove, and E. Mooser—469
Photography of magnetic domains using the transverse Kerr effect, D. B. Dove—2067
Surface lines on soda-lime glass slides, G. R. Stilwell and D. B. Dove—1941
Dow, D. G.
Electron-beam probing of a Penning discharge, D. G. Dow—2395
Electron-beam probing of a Penning discharge, D. G. Dow—3644(E)
Dowling, P. H.
Microplasma breakdown in germanium, M. Poleshuk and P. H. Dowling—3069
Dresner, J.
Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390
Drickamer, H. G.
Effect of pressure on the electrical resistance of some transition-metal oxides and sulfides, S. Minomura and H. G. Drickamer—3043
Dumin, D. J.
Application of quantized trapped flux in a superconducting memory, D. J. Dumin and J. F. Gibbons—1566(C)
Dunlap, R. D.
Magnetic field stabilization with a superconducting tube, R. D. Dunlap, C. F. Hempstead, and Y. B. Kim—3147(C)
Dunmyre, G. R.
Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668
Dunn, D. A.
Paraxial solutions for accelerated and decelerated axially symmetric space-charge flow, R. P. Borghi and D. A. Dunn—692
Dutton, H. M.
Diffusion and solid solubility of gold in single-crystal bismuth telluride, J. D. Keys and H. M. Dutton—1830(C)
Duwell, E. J.
Friction and wear of single-crystal sapphire sliding on steel, E. J. Duwell—240(E)
Duwez, P.
CsCl-type compounds in binary alloys of rare-earth metals with gold and silver, C. C. Chao, H. L. Luo, and P. Duwez—1971
Ebben, G. J.
Electron microscopy of tin plate alloy layers, G. J. Ebben and G. J. Lawson—1825(C)
Eby, R. K.
First-order transition temperatures in crystalline polymers, R. K. Eby—2442
Eddy, David S.
Ion drift equilibrium in a semiconductor, Robert R. Bockemuehl and David S. Eddy—1529
Edwards, E.
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
Edwards, W. D.
Interaction between oxygen and aluminum in germanium, W. D. Edwards—2497(C)
Egan, W. G.
DC detection of ferromagnetic resonance in thin nickel films, W. G. Egan and H. J. J. Juretschke—1477
Ehrenreich, H.
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
Eidson, J. C.
Coupling of electromagnetic and quasi-static modes in plasma loaded waveguides, B. A. Auld and J. C. Eidson—478
Eikum, Alf
Formation of diamond-shaped prismatic loops in quenched fcc metals, Alf Eikum and G. Thomas—3363
Einspruch, Norman G.
Ultrasonically induced switching in (80% Ni–20% Fe) ferromagnetic films, Turner E. Hasty, T. C. Penn, and Norman G. Einspruch—1685
Eisner, M.
Self-pinch instabilities in solid sodium, R. M. Henson and M. Eisner—1886
Elbaum, C.
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
El Bindari, A.
Upper critical field of Nb–Zr and Nb–Ti alloys, A. El Bindari and M. M. Litvak—2913(C)
Engeler, W. E.
Temperature effects in coherent GaAs diodes, W. E. Engeler and M. Garfinkel—2746
Enig, Julius W.
A complete E, P, V, T, S thermodynamic description of metals based on the P, u mirror-image approximation, Julius W. Enig—746
Epstein, A. S.
Electrical and thermal properties of electron bombarded silver selenide powders, A. S. Epstein—3641(C)
Thermoelectric figure of merit in silver selenide powders, A. S. Epstein—3587
Erhardt, P. F.
Rhe-optical properties of polymers. III. Dynamic polarized light scattering, D. G. LeGrand and P. F. Erhardt—68
Erickson, Roger
Design and operation of xenon flashtubes, Arden Buck, Roger Erickson, and Frank Barnes—2115(C)
Esaki, Leo
Direct determination of the scattering time in bismuth and antimony–bismuth crystals at low temperatures, Leo Esaki and John Heer—234(C)

Evans, R. B., III
Interdiffusion of gases in a low-permeability graphite. II. Influence of pressure gradients, R. B. Evans, III, G. M. Watson, and J. Truitt—2020
Eyring, Henry
Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261

Fahrig, R. H.
Growth of cadmium oxide crystals, R. H. Fahrig—234(C)
Falvey, T.
Q-switched $CaWO_4:Nd^{3+}$ laser, D. Karlsons and T. Falvey —3407(C)
Fang, P. H.
A note on domain conversion of $BaTiO_3$, P. H. Fang and W. S. Brower—1516
Ferroelectric switching and the Sievert integral, P. H. Fang and Irene A. Stegun—284
Faucher, Joseph A.
Some integrals occurring in the theory of rubber viscosity, Joseph A. Faucher—237(C)
Feldman, Charles
Temperature dependency of resistance of thin metal films, Charles Feldman—1710
Feldman, J. M.
Plasma pinch excitation of a ruby laser, R. A. Brandewie, J. S. Hitt, and J. M. Feldman—3415(C)
Feldtkeller, Ernst
Ripple hysteresis in thin magnetic films, Ernst Feldtkeller —2646
Fendley, J. R., Jr.
Duo-emitter diode, K. G. Hernqvist and J. R. Fendley, Jr. —979
Fenner, G. E.
Effect of hydrostatic pressure on the emission from gallium arsenide lasers, G. E. Fenner—2955
Spatial distribution of radiation from GaAs lasers, G. E. Fenner and J. D. Kingsley—3204
Ferebee, F. S.
Magnetic properties of lithium-substituted manganese ferrite, T. R. McGuire and F. S. Ferebee—1821
Ferretti, A.
Growth of ferrous-free cobalt ferrite single crystals, A. Ferretti, W. Kunnmann, and A. Wold—388
Ferris, R. W.
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Finch, R. H.
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Fine, M. E.
Tensile properties of NaCl–BaNr solid solution single crystals, F. T. Wimmer, W. Kobes, and M. E. Fine—1775
Firth, F.
Hollow cadmium sulfide crystals, D. H. Mash and F. Firth—3636(C)
Fischer, Albrecht G.
Tunnel-injection electroluminescence, Albrecht G. Fischer and Herbert I. Moss—2112(C)
Fisher, R. M.
Theoretical analysis of plastic deformation in superlattices based on the body-centered cubic structure, M. J. Marcinkowski and R. M. Fisher—2135
Fitzgerald, D. J.
Pulse currents in rutile, E. H. Greener, D. J. Fitzgerald, and W. M. Hirthe—443(C)
Fleck, J. A., Jr.
Linewidth and conditions for steady oscillation in single and multiple element lasers, J. A. Fleck, Jr.—2997
Fleischer, R. L.
Charged particle tracks in glass, R. L. Fleischer and P. B. Price—2903
Flicker, H.
Distribution of electron-bombardment-induced radiation defects with depth in silicon, H. Flicker and J. J. Loferski —2146
Flippen, R. B.
Applications of miniature coil, pulsed-field techniques to studies of magnetic phase transitions, R. B. Flippen—2026
Florio, John V.
Retarding field technique for measuring sublimation from dispenser and oxide cathodes, John V. Florio—200
Fluit, J. M.
Angular-dependent sputtering of copper single crystals, J. M. Fluit, P. K. Rol, and J. Kistemaker—690
Fochs, P. D.
Improved techniques for studying the growth of CdS crystals, P. D. Fochs and B. Lunn—1762
Forman, R.
Effect of daughter Rb^{88} on the characteristics of a thermionic diode containing Kr^{88}, R. Forman and J. A. Ghormley—2498(C)
Theory of space-charge-limited emission on high-pressure gas diodes, R. Forman—2578
Forman, Stanley M.
Harmonic generation in low-field nuclear induction, Stanley M. Forman—3037
Førsvoll, K.
Electrical size effect in aluminum, K. Førsvoll and I. Holwech—2230
Foster, N. F.
Diffusion layer ultrasonic transducer, N. F. Foster—990
Fowler, C. A., Jr.
Magnetic domains in orthoferrites by the Kerr effect, C. A. Fowler, Jr., E. M. Fryer, B. L. Brandt, and R. A. Isaacson—2064
Fowler, Peter
Superconducting niobium films by vacuum deposition, Peter Fowler—3538
Fowler, R. G.
Investigations on constriction of the positive column using glow discharges of limited duration, R. G. Fowler and L. W. Jones—1401
Fox, A. G.
Comment on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)
Francombe, M. H.
Electrical resistivity of thin single-crystal gold films, K. L. Chopra, L. C. Bobb, and M. H. Francombe—1699
Frankl, D. R.
Electron extinction distance in silicon, D. R. Frankl—3514
Power and efficiency considerations in continuous laser operation, D. R. Frankl—459
Franklin, Wilbur M.
Dislocations and glide in lead sulfide as a function of deviations from stoichiometry and doping additions, W. M. Franklin and J. B. Wagner, Jr.—3121
Frantz, Lee M.
Theory of pulse propagation in a laser amplifier, Lee M. Frantz and John S. Nodvik—2346
Frerichs, R.
Properties of superconducting niobium films made by asymmetric ac sputtering, R. Frerichs and C. J. Kircher—3541
X-ray diffraction and diffusion in metal film layered structures, J. Dinklage and R. Frerichs—2633

Fryer, E. M.
Magnetic domains in orthoferrites by the Kerr effect, C. A. Fowler, Jr., E. M. Fryer, B. L. Brandt, and R. A. Isaacson—2064
Fuchs, E.
Isotropic Permalloy films. E. Fuchs and W. Zinn—2557
Fuller, C. S.
Acceptors in donor-doped GaAs resulting from Li diffusion, C. S. Fuller and K. B. Wolfstirn—1914
Changes in electron concentration of donor-doped GaAs crystals caused by annealing, C. S. Fuller and K. B. Wolfstirn—2287

Gabrysh, A. F.
Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261
Gagosz, R.
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gagosz, and G. Barnard—453
Gaines, Gordon B.
Total emittance of rhenium, Gordon B. Gaines and Chester T. Sims—2922(C)
Gallo, C. F.
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Gallone, L. M.
Epitaxy of compound semiconductors by flash evaporation, J. L. Richards, P. B. Hart, and L. M. Gallone—3418(C)
Gamo, Hideya
Triple correlator of photoelectric fluctuations as a spectroscopic tool, Hideya Gamo—875
Garbuny, M.
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
Garfinkel, M.
Temperature effects in coherent GaAs diodes, W. E. Engeler and M. Garfinkel—2746
Garrett, Milan Wayne
Calculation of fields, forces, and mutual inductances of current systems by elliptic integrals, Milan Wayne Garrett—2567
Gaynor, Joseph
Photoplastic recording, Joseph Gaynor and Siegfried Aftergut—2102(C)
Geppert, D. V.
Theoretical shape of metal–insulator–metal potential barriers, D. V. Geppert—490
Gerlich, D.
Elastic constants of single-crystal indium arsenide, D. Gerlich—2915(C)
Gersch, W.
New technique for identifying particles observed by a scintillation counter, W. Gersch—823
Gershenzon, M.
Relection and guiding of light at p–n junctions, A. Ashkin and M. Gershenzon—2116(C)
Gerson, R.
Dielectric constant of lead titanate zirconate ceramics at high frequency, R. Gerson, J. M. Peterson, and D. R. Rote—3243
Getty, W. D.
Beam-plasma discharge: buildup of oscillations, W. D. Getty and L. D. Smullin—3421
Ghormley, J. A.
Effect of daughter Rb^{88} on the characteristics of a thermionic diode containing Kr^{88}, R. Forman and J. A. Ghormley—2498(C)
Gibbons, J. F.
Application of quantized trapped flux in a superconducting memory, D. J. Dumin and J. F. Gibbons—1566(C)
Gibbs, P.
Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Effect of pressure on creep in tin, K. L. DeVries, G. S. Baker, and P. Gibbs—2258
Fracture of Ge and Al_2O_3, O. W. Johnson and P. Gibbs—2852
Pressure dependence of creep in Zn and Cd, K. L. DeVries and P. Gibbs—3119
Pressure dependence of the creep of lead, K. L. DeVries, G. S. Baker, and P. Gibbs—2254
Gibbs, Thomas W.
Arc cathode emission mechanisms at high currents and pressures, Peter W. Neurath and Thomas W. Gibbs—277
Gilbert, J. F.
Determination of free electron effective mass of n-type silicon, L. E. Howarth and J. F. Gilbert—236(C)
Gilfrich, J. V.
Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475
Gniewek, J. J.
Effects of tensile stress on the domain structure in grain-oriented 3.25% silicon steel, J. J. Gniewek—3618
Gobeli, G. W.
Structural properties of cleaved silicon and germanium surfaces, J. J. Lander, G. W. Gobeli, and J. Morrison—2298
Goetzberger, A.
Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Gold, E. Mark
Error in Hall cell angle measurement due to magnetic edge effects, E. Mark Gold—1424
Goldberg, N.
Oscillatory tunneling current through thin-film insulating barriers in a magnetic field, N. Goldberg and S. R. Pollack—3556
Goldberg, P.
DC electroluminescence in thin films of ZnS, P. Goldberg and J. W. Nickerson—1601
Goldheim, D. L.
Cleavage surface energy of {100} magnesium oxide, A. R. C. Westwood and D. L. Goldheim—3336
Goldman, Robert
Resonance phenomena in a gaseous discharge in a strong magnetic field, Basil Beeken, Robert Goldman, and Ludwig Oster—1430
Goldstein, Martin
Theory of scattering for diffusion-controlled phase separations, Martin Goldstein—1928
Gonser, U.
Determination of Néel temperatures in fcc iron, U. Gonser, C. J. Meechan, A. H. Muir, and H. Wiedersich—2373
Goodier, J. N.
Penetration by shaped charge jets of nonuniform velocity, G. R. Abrahamson and J. N. Goodier—195
Goodlett, V. W.
Wide-line nuclear magnetic resonance studies of poly(ethylene terephthalate), C. A. Boye and V. W. Goodlett—59

Goodman, Alvin M.
Metal-semiconductor barrier height measurement by the differential capacitance method—one carrier system, Alvin M. Goodman—329
Gottlieb, M.
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
Goulding, Frederick S.
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansen, Frederick S. Goulding, and Robert P. Lothrop—1570(C)
Gow, K. V.
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Graft, R. D.
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590
Graham, L. J.
Elastic constants of UC, L. J. Graham, N. Nadler, and R. Chang—1572(C)
Grannemann, W. W.
Point contact diodes utilizing single-crystal reduced rutile titanium dioxide, Goebel Davis, Jr., and W. W. Grannemann—228
Gray, Peter V.
Tables of the conductivity coefficients in transverse magnetic fields $K(\gamma)$ and $L(\gamma)$, Peter V. Gray—291
Greener, E. H.
Pulse currents in rutile, E. H. Greener, D. J. Fitzgerald, and W. M. Hirthe—443(C)
Grosskreutz, J. C.
Development of substructure in polycrystalline aluminum during constant-strain fatigue, J. C. Grosskreutz—372
Groves, G. W.
Prismatic dislocation loops in cold-worked and annealed MgO crystals, G. W. Groves and A. Kelly—3104
Grunberg, J. G.
Ferrimagnetic resonance linewidth in dense polycrystalline ferrites, P. E. Seiden and J. G. Grunberg—1696
Gualtieri, J. G.
Metallic scattering centers in $CaWO_4$ laser crystals, J. R Shappirio, T. A. AuCoin, and J. G. Gualtieri—3643(C)
Guggenheim, H.
Growth of highly perfect fluoride single crystals for optical masers, H. Guggenheim—2482

Haas, G. A.
Investigation of the patch effect in uranium carbide, G. A. Haas and R. E. Thomas—3457
Thermionic studies of various uranium compounds, G. A. Haas and J. T. Jensen—3451
Hagedorn, F. B.
Right-angle bends in thin strip conductors, F. B. Hagedorn and P. M. Hall—128
Haitz, R. H.
Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Hake, R. R.
High-field superconducting properties of Ti–Mo alloys, R. R. Hake and D. H. Leslie—270
Hakki, Basil W.
Interaction of a bunched electron beam with a gyrotropic plasma, Basil W. Hakki—531
Hall, M. B.
Effect of friction on surface trapping on silicon, M. B. Hall—1003(C)
Hall, P. M.
Right-angle bends in thin strip conductors, F. B. Hagedorn and P. M. Hall—128
Hall, R. N.
Wave propagation in an active dielectric slab, R. N. Hall and D. J. Olechna—2565
Hamilton, D. R.
Association in melted semiconductors, D. R. Hamilton and R. G. Seidensticker—2697
Growth mechanisms of germanium dendrites: kinetics and the nonisothermal interface, D. R. Hamilton and R. G. Seidensticker—1450
Growth mechanisms in germanium dendrites: three twin dendrites; experiments on and models for the entire interface, R. G. Seidensticker and D. R. Hamilton—3113
Haneman, D.
Hillocks on sputtered Ge surfaces, D. Haneman and M. F. Chung—2488(C)
Tear marks on cleaved germanium surfaces, D. Haneman and E. N. Pugh—2269
Hanneman, R. E.
Crystallographic polarity of ZnO crystals, A. N. Mariano and R. E. Hanneman—384
Hansel, William L.
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansel, Frederick S. Goulding, and Robert P. Lothrop—1570(C)
Hansen, L. K.
Ion-emission requirements for removal of electron space-charge barriers, L. K. Hansen and C. Warner, III—2574
Hansen, William L.
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansen, Frederick S. Goulding, and Robert P. Lothrop—1570(C)
Hanson, D. G.
Probe noise in different regions of a gas discharge, D. G. Hanson and A. van der Ziel—1665
Happ, W. W.
Field emission in rutile diodes, E. O. Wagner and W. W. Happ—259
Harbeke, Günther
Absorption spectrum of germanium and zinc-blende-type materials at energies higher than the fundamental absorption edge, Manuel Cardona and Günther Harbeke—813
Hardwick, Albert J.
Interrelationship of substrate temperature and angle of incidence effects upon anisotropy variations in evaporated nickel–iron thin films, Albert J. Hardwick—818
Harman, G. G.
Direct observation of charge storage in the surface states of silicon, G. G. Harman, R. L. Raybold, and Owen L. Meyer—380
Harman, T. C.
Galvano-thermomagnetic phenomena. IV. Application to anisotropic adiabatic Nernst generators, T. C. Harman, J. M. Honig, and B. M. Tarmy—2215
Operating characteristics of Nernst refrigerators for anisotropic materials, T. C. Harman and J. M. Honig—239(C)
Theory of galvano-thermomagnetic energy conversion devices. III. Generators constructed from anisotropic materials, T. C. Harman and J. M. Honig—189
Theory of galvano-thermomagnetic energy conversion devices. V. Devices constructed from anisotropic materials, T. C. Harman, J. M. Honig, and B. M. Tarmy—2225

Harnik, E.
Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207
Space-charge polarization in photoconducting insulators, E. Harnik and B. Pratt—1804
Harris, Lawson P.
Electrical conductivity of cesium-seeded atmospheric pressure plasmas near thermal equilibrium, Lawson P. Harris—2958
Influence of alkali-vapor atmospheres on pyrometrically determined temperatures: cesium and potassium, M. Lapp and L. P. Harris—3622
Harris, Paul
Decay of elastic precursor waves, Paul Harris—3405(C)
Harrison, J. D.
Ice interface morphology and texture developed during freezing, J. D. Harrison and W. A. Tiller—3349
Harrison, Sol E.
Applicability of the band model to metal-free phthalocyanine single crystals, George H. Heilmeier, George Warfield, and Sol E. Harrison—2278
Implications of the intensity dependence of photoconductivity in metal-free phthalocyanine crystals, G. H. Heilmeier and S. E. Harrison—2732
Hart, P. B.
Epitaxy of compound semiconductors by flash evaporation, J. L. Richards, P. B. Hart, and L. M. Gallone—3418(C)
Hart, R. K.
Fission-fragment damage in gold films, K. L. Merkel, L. R. Singer, and R. K. Hart—2800
Hart, Roger G.
A method for shadowing electron-microscopic specimens with tungsten, Roger G. Hart—434
Harte, K. J.
Switching thresholds of weakly coupled ferromagnetic domains, K. J. Harte and D. O. Smith—442(C)
Hartman, R. D.
Apparatus for measuring relative roughness factors of inert metals by the adsorption of radioactive iodine, M. K. Testerman and R. D. Hartman—1492
Hartman, Thomas E.
Electrical conduction in discontinuous thin metal films, Thomas E. Hartman—943
Harvey, K. B.
Decoration of dislocations in aluminum oxide, H. E. Bond and K. B. Harvey—440(C)
Hasty, Turner E.
Ultrasonically induced switching in (80% Ni–20% Fe) ferromagnetic films, Turner E. Hasty, T. C. Penn, and Norman G. Einspruch—1685
Hatfield, W. B.
Electromagnetic shock waves in gyromagnetic media, W. B. Hatfield and F. A. Auld—2941
Hatkin, L.
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Hawkins, S. R.
Theory of longitudinally isothermal Ettingshausen cooler, C. F. Kooi, R. B. Horst, K. F. Cuff, and S. R. Hawkins —1735
Healy, J. H.
Thermoelectric properties of diphasal systems combining As_2Te_3 and Tl_2Se with Sb_2Te_3, Bi_2Te_3, or Sb_2Se_3, H. L. Uphoff and J. H. Healy—390
Heer, John
Direct determination of the scattering time in bismuth and antimony–bismuth crystals at low temperatures, Leo Esaki and John Heer—234(C)
Heidenreich, R. D.
Diffraction of fast electrons after single plasmon loss, R. D. Heidenreich—964
Heilmeier, George H.
Applicability of the band model to metal-free phthalocyanine single crystals, George H. Heilmeier, George Warfield, and Sol E. Harrison—2278
Implications of the intensity dependence of photoconductivity in metal-free phthalocyanine crystals, G. H. Heilmeier and S. E. Harrison—2732
Helfrich, James L.
Faraday effect as a Q-switch for ruby laser, James L. Helfrich—1000(C)
Hempstead, C. F.
Inductive behavior of superconducting magnets, C. F. Hempstead, Y. B. Kim, and A. R. Strnad—3227
Magnetic field stabilization with a superconducting tube, R. D. Dunlap, C. F. Hempstead, and Y. B. Kim—3147(C)
Hennig, G. R.
Electron microscopy of graphite containing boron, G. R. Hennig—237(C)
Henschke, Erich B.
Full-plane threshold energies for cathode sputtering of metals with Ar^+ ions, Erich B. Henschke and Samuel E. Derby—2458
Hensley, Eugene B.
Drift and diffusion of activation in oxide-coated cathodes, Koji Okumura and Eugene B. Hensley—519
Henson, R. M.
Self-pinch instabilities in solid sodium, R. M. Henson and M. Eisner—1886
Hernqvist, K. G.
Duo-emitter diode, K. G. Hernqvist and J. R. Fendley, Jr. —979
Herreman, Harold M.
A photomultiplier and electronic study of Geiger counter pulses in air, Harold M. Herreman and Leonard B. Loeb —3160
Herrmann, Walter
Equation of state of 6061-T6 aluminum at low pressures, C. D. Lundergan and Walter Herrmann—2046
Herzog, Richard F. K.
Sputtering ion source for solids, Helmut J. Liebl and Richard F. K. Herzog—2893
Hickmott, T. W.
Anomalous transmission of low-energy electrons through thin metal films, T. W. Hickmott—1569(C)
Hikata, A.
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
Hirota, R.
New type of two-stream plasma instability, S. Tosima and R. Hirota—2993
Hirthe, W. M.
Pulse currents in rutile, E. H. Greener, D. J. Fitzgerald, and W. M. Hirthe—443(C)
Hitch, T. T.
Surface energy of {100} potassium chloride, A. R. C. Westwood and T. T. Hitch—3085
Hitt, J. S.
Plasma pinch excitation of a ruby laser, R. A. Brandewie, J. S. Hitt, and J. M. Feldman—3415(C)
Hochheimer, B. F.
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schulz—703(C)

Hoffman, G. R.
Variation of coercivity of magnetic materials with driving field, G. R. Hoffman, J. A. Turner, and H. K. Lachowicz—2708
Hoffman, R. B.
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389
Hokanson, J. L.
Elastic stress field of an angular dislocation, J. L. Hokanson—2337
Holland, Lawrence Rozier
Physical properties of titanium. III. The specific heat, Lawrence Rozier Holland—2350
Holmes, D. A.
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Holmes, D. K.
Ranges of energetic atoms in solids, O. S. Oen, D. K. Holmes, and Mark T. Robinson—302
Holtzman, Arnold H.
Flow configurations in colliding plates: explosive bonding, George R. Cowan and Arnold H. Holtzman—928
Holverson, E. L.
Electrolytic conduction in calcium-doped solid cerium oxide, C. J. Kevane, E. L. Holverson, and Robert D. Watson—2083
Holwech, I.
Electrical size effect in aluminum, K. Førsvoll and I. Holwech—2230
Honig, J. M.
Galvano-thermomagnetic phenomena. IV. Application to anisotropic adiabatic Nernst generators, T. C. Harman, J. M. Honig, and B. M. Tarmy—2215
Operating characteristics of Nernst refrigerators for anisotropic materials, T. C. Harman and J. M. Honig—239(C)
Theory of galvano-thermomagnetic energy conversion devices. III. Generators constructed from anisotropic materials, T. C. Harman and J. M. Honig—189
Theory of galvano-thermomagnetic energy conversion devices. V. Devices constructed from anisotropic materials, T. C. Harman, J. M. Honig, and B. M. Tarmy—2225
Hooverman, R. H.
Charged particle orbits in a logarithmic potential, R. H. Hooverman—3505
Hopfield, J. J.
Proposal for beating two optical masers, G. D. Mahan and J. J. Hopfield—1531
Hopkins, B. J.
Anode work function changes caused by sublimation from barium oxide under applied anode potentials, B. J. Hopkins and K. J. Ross—2111(C)
Hopson, James E.
Beam-generated beam-plasma system, James E. Hopson—2425
Horrigan, F. A.
Optical maser action in He–Hg rf discharges, R. A. Paananen, C. L. Tang, F. A. Horrigan, and H. Statz—3148(C)
Horst, Rudolf B.
Thermomagnetic figure of merit: bismuth, Rudolf B. Horst—3247
Theory of the longitudinally isothermal Ettingshausen cooler, C. F. Kooi, R. B. Horst, K. F. Cuff, and S. R. Hawkins—1735
Hosack, H. H.
Double barrier in thin-film triodes, R. H. Davis and H. H. Hosack—864
Hosemann, Rolf
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42
Crystalline and paracrystalline order in high polymers, Rolf Hosemann—25
House, H.
Polarization phenomena in electrical tests on hexane, A. A. Zaky and H. House—3194
Howarth, L. E.
Determination of free electron effective mass of *n*-type silicon, L. E. Howarth and G. F. Gilbert—236(C)
Hoy, H. C.
A low density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece—3466
Huang, C. H.
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and V. van der Ziel—2613
Huey, R. M.
Anomalous discharges in ferroelectrics, R. M. Huey and R. McK. Taylor—1557
Hughes, R. D.
High-field study of a Hall-effect microwave converter, K. K. N. Chang and R. D. Hughes—777
Hunter, W. R.
Optical constants of aluminum from 300 to 800 Å, W. R. Hunter—1565(C)
Optical constants of aluminum from 300 to 800 Å, W. R. Hunter—2922(E)

Ida, Yoshio
Resonance of surface waves on a cylindrical plasma column, Yasuo Akao and Yoshio Ida—2119(C)
Idnurm, M.
Experiments with Peltier junctions pulsed with high transient currents, M. Idnurm and K. Landecker—1806
Ingold, J. H.
Thermionic properties of some refractory metal carbides, J. H. Ingold—2033
Inoue, Morio
Cd and Te dislocations in CdTe, Morio Inoue, Iwao Teramoto, and Shigetoshi Takayanagi—404
Inowaki, Shuichi
Rectifying action and the electromotive forces of the film of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki—867
Isaacson, R. A.
Magnetic domains in orthoferrites by the Kerr effect, C. A. Fowler, Jr., E. M. Fryer, B. L. Brandt, and R. A. Isaacson—2064
Ishikawa, Yoshioki
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki—867

Jacob, L.
Paschen law and shock-excited breakdown in air, A. Cornforth and L. Jacob—2914(C)
Jacobs, H.
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Janak, James F.
Diffusion-damped domain-wall motion, James F. Janak—3356

Jenkins, G. M.
Deformation of graphite by thermal cycling, G. M. Jenkins and G. K. Williamson—2837
Jensen, J. T.
Thermionic studies of various uranium compounds, G. A. Haas and J. T. Jensen—3451
Jensen, Richard E.
Colloid absorption band in CsBr, Richard E. Jensen—3134
Johnson, Charles A.
Ferromagnetic domain structures in cementite, Alfred S. Keh and Charles A. Johnson—2670
Johnson, J. F.
Order and flow of liquid crystals: the cholesteric mesophase, R. S. Porter and J. F. Johnson—55
Order and flow of liquid crystals: the nematic mesophase, R. S. Porter and J. F. Johnson—51
Johnson, L. F.
Optical maser characteristics of rare-earth ions in crystals, L. F. Johnson—897
Johnson, O. W.
Fracture of Ge and Al_2O_3, O. W. Johnson and P. Gibbs—2852
Johnson, Robert W.
Use of induction heating for floating zone melting above 2000°C, Robert W. Johnson—352
Use of induction heating for floating zone melting above 2000°C, Robert W. Johnson—1573(E)
Johnston, T. L.
Effect of temperature on the deformation of KCl–KBr alloys, N. S. Stoloff, D. K. Lezius, and T. L. Johnston—3316
Jona, F.
Epitaxial grown of germanium using water vapor, R. F. Lever and F. Jona—3139(C)
Jones, L. W.
Investigations on constriction of the positive column using glow discharges of limited duration, R. G. Fowler and L. W. Jones—1401
Joseph, R. I.
Higher-order spin-wave instability excited by parallel pumping, R. I. Joseph and E. Schlömann—2686
Spin-wave instability in hexagonal ferrites with a preferential plane, E. Schlömann, R. I. Joseph, and I. Bady—672
Juretschke, H. J. J.
DC detection of ferromagnetic resonance in thin nickel films, W. G. Egan and H. J. J. Juretschke—1477

Kabler, M. N.
Dislocation-impurity interactions and strain aging in AgCl, M. N. Kabler, M. G. Miller, and L. M. Slifkin—1953
Kainuma, Seizo
Domain patterns in electrodeposited nickel-iron thin films, Seizo Kainuma and Noboru Tsuya—795
Kamber, Kenneth T.
Internal friction in beryllium, Choh-Yi Ang and Kenneth T. Kamber—3405(C)
Kamel, B.
Observations on work-hardening and fracture of pure polycrystalline zinc in tension, B. Kamel and F. A. Bessa—1881
Kane, Richard A.
Growth of manganous oxide whiskers, Thomas E. Dixon and Richard A. Kane—2774
Kanter, H.
Slow electron transfer through evaporated Au films, H. Kanter—3629(C)
Kantz, A. D.
Average neutron energy of reactor spectra and its influence on displacement damage, A. D. Kantz—1944
Defects introduced in neutron-irradiated Esaki diodes, C. B. Pierce and A. D. Kantz—1496
Kaplan, Jerome I.
Criterion for continuous amplitude oscillations of optical masers, Jerome I. Kaplan—3411(C)
Karlsons, D.
Q-switched $CaWO_4:Nd^{3+}$ laser, D. Karlsons and T. Falvey—3407(C)
Kato, Ryuhei
Rupture of foam by nuclear ionized particles, Ryuhei Kato and Toshihiko Kōno—708(C)
Kay, Eric
Magnetic field effects on an abnormal truncated glow discharge and their relation to sputtered thin-film growth, Eric Kay—760
Keating, D. T.
A reanalysis of short-range order in Cu_3Au, C. B. Walker and D. T. Keating—2309
Interpretation of the neutron or x-ray scattering from a liquid-like binary, D. T. Keating—923
Keedy, D. A.
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Keh, Alfred S.
Ferromagnetic domain structures in cementite, Alfred S. Keh and Charles A. Johnson—2670
Keil, Gunter
Mutual interaction between microplasmas in silicon p–n junctions, Ingolf Ruge and Günter Keil—3307
Keith, H. D.
A phenomenological theory of spherulitic crystallization, H. D. Keith and F. J. Padden, Jr.—2409
Keller, D. V.
Mechanism of spall in Lucite, D. V. Keller and J. G. Trulio—172
Keller, Joseph B.
Conductivity of a medium containing a dense array of perfectly conducting spheres or cylinders of nonconducting cylinders, Joseph B. Keller—991
Impedance between perfect conductors in a finitely conducting medium with application to composite media, Robert N. Buchal and Joseph B. Keller—3414(C)
Kelly, A.
Prismatic dislocation loops in cold-worked and annealed MgO crystals, G. W. Groves and A. Kelly—3104
Kemeny, G.
Laser operation without spikes in a ruby ring, Peter Walsh and G. Kemeny—956
Kent, Gordon
A particular solution of the linearized Boltzmann equation, Gordon Kent—1426
Kerr, D. R.
Piezoresistance of diffused layers in cubic semiconductors, D. R. Kerr and A. G. Milnes—727
Kerrigan, James V.
Studies on the transport and deposition of alpha-aluminum oxide, James V. Kerrigan—3408(C)
Kevane, C. J.
Electrolytic conduction in calcium-doped solid cerium oxide, C. J. Kevane, E. L. Holverson, and Robert D. Watson—2083
Kevorkian, Hagop K.
Specific heat of atactic and isotactic polypropylene and the entropy of the glass, Elio Passaglia and Hagop K. Kevorkian—90

Keys, J. D.
Diffusion and solid solubility of gold in single-crystal bismuth telluride, J. D. Keys and H. M. Dutton—1830(C)
Khoury, F.
Crystal habits and morphology of *n*-tetranonacontane (n-$C_{94}H_{190}$), F. Khoury—73
Kim, Y. B.
Inductive behavior of superconducting magnets, C. F. Hempstead, Y. B. Kim, and A. R. Strnad—3227
Magnetic field stabilization with a superconducting tube, R. D. Dunlap, C. F. Hempstead, and Y. B. Kim—3147(C)
Kingery, W. D.
Oxygen diffusion and vaporization rates for liquid and solid germanium dioxide, T. Tokuda and W. D. Kingery—2104(C)
Kingsley, J. D.
Spatial distribution of radiation from GaAs lasers, G. E. Fenner and J. D. Kingsley—3204
Kino, G. S.
A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Dipole resonances of a plasma in a magnetic field, F. W. Crawford, G. S. Kino, and A. B. Cannara—3168
First-order space-charge correction, D. S. Colburn and G. S. Kino—1568(C)
Some measurements of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2196
Kinter, M. L.
An improved thermionic emitter using uniaxially oriented tungsten, Ira Weissman and M. L. Kinter—3187
Kircher, C. J.
Properties of superconducting niobium films made by asymmetric ac sputtering, R. Frerichs and C. J. Kircher—3541
Kirstein, P. T.
Thermal velocity effects in axially symmetric solid beams, P. T. Kirstein—3479
Kissinger, H. E.
Dislocation channeling in neutron-irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)
Kistemaker, J.
Angular-dependent sputtering of copper single crystals, J. M. Fluit, P. K. Rol, and J. Kistemaker—690
Kneller, E. F.
Particle size dependence of coercivity and remanence of single-domain particles, E. F. Kneller and F. E. Luborsky—656
Knorr, T. G.
Surface structures resulting from fission-fragment damage in LiF crystals, T. G. Knorr—2767
Kobes, W.
Tensile properties of NaCl–BaNr solid solution single crystals, F. T. Wimmer, W. Kobes, and M. E. Fine—1775
Koch, E. F.
Crystallographic orientation and oxidation of submicron whiskers of iron, iron–cobalt, and cobalt, F. E. Luborsky, E. F. Koch, and C. R. Morelock—2905
Kofstad, Per
Internal friction in the tantalum–hydrogen system, Per Kofstad and Richard A. Butera—1517
Internal friction in the vanadium–hydrogen system, Richard A. Butera and Per Kofstad—2172
Koga, Issac
Radio-frequency vibrations of rectangular AT-cut quartz plates, Issac Koga—2357
Kogelnik, H.
Comment on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)
Kohane, T.
DC magnetic moment induced by a strong rf magnetic field applied parallel to the dc field, T. Kohane and E. Schlömann—1544
Kōno, Toshihiko
Rupture of foam by nuclear ionized particles, Ryuhei Kato and Toshihiko Kōno—708(C)
Kooi, C. F.
Theory of the longitudinally isothermal Ettingshausen cooler, C. F. Kooi, R. B. Horst, K. F. Cuff, and S. R. Hawkins—1735
Koster, G. F.
Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
Kramer, N. B.
End-effect correction for strip beam ion engines, N. B. Kramer and E. G. Todd—3140(C)
Kressel, H.
Breakdown voltage of graded gallium arsenide p–n junctions, H. Kressel and A. Blicher—2495(C)
Kretschmer, C. B.
Use of Langmuir probes to study ion–electron recombination, C. B. Kretschmer and H. L. Peterson—3209
Kreye, W. C.
Effects of a guarding upon low-energy sputtering yields of flat, single-crystal gold targets, W. C. Kreye—2897
Krigbaum, W. R.
Near-ultraviolet scattering for the determination of molecular dimensions, W. R. Krigbaum, P. Smith, and F. G. Mark—3218
Krinsky, A.
Electrical resistance–strain characteristics of thin evaporated metal films, R. L. Parker and A. Krinsky—2700
Krueger, H. H. A.
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Krumhansl, J. A.
A model for a diffusive magnetothermoelectric generator, A. W. Riddiford and J. A. Krumhansl—3572
Kucsma, M. E.
Frictional properties of polyvinyl chloride, C. L. Sieglaff and M. E. Kucsma—342
Kudman, I.
A nondestructive measurement of carrier concentration in heavily doped semiconducting materials and its application to thin surface layers, I. Kudman—1826(C)
Kunnmann, W.
Growth of ferrous-free cobalt ferrite single crystal, A. Ferretti, W. Kunnmann, and A. Wold—388

Lachowicz, H. K.
Variation of coercivity of magnetic materials with driving field, G. R. Hoffman, J. A. Turner, and H. K. Lachowicz—2708
Lafferty, D. L.
Investigation of electron trajectories in an axially symmetric magnetic field, R. F. Stetson, B. N. A. Lamborn, and D. L. Lafferty—516
Laidler, J. J.
Dislocation channeling in neutron-irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)

Lamborn, N. A.
Investigation of electron trajectories in an axially symmetric magnetic field, R. F. Stetson, B. N. A. Lamborn, and D. L. Lafferty—516

Landauer, Rolf
Velocity modulation of propagation waves, Rolf Landauer —1893

Landecker, K.
Experiments with Peltier junctions pulsed with high transient currents, M. Idnurm and K. Landecker—1806

Lander, J. J.
Low-energy electron-diffraction study of the surface reactions of germanium with oxygen and with iodine. II, J. J. Lander and J. Morrison—1411
Scattering factors and other properties of low-energy electron diffraction, J. J. Lander and J. Morrison—3516
Structural properties of cleaved silicon and germanium surfaces, J. J. Lander, G. W. Gobeli, and J. Morrison—2298
Structures of clean surfaces of germanium and silicon. I, J. J. Lander and J. Morrison—1403

Landon, A. J.
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500

Lankard, J. R.
Spectral characteristics of GaAs lasers operating in "Fabry-Perot" modes, P. P. Sorokin, J. D. Axe, and J. R. Lankard—2553

Laponsky, A. B.
Electron ejection from tantalum by singly ionized helium, A. B. Laponsky—1568(C)

Lapp, M.
Influence of alkali-vapor atmospheres on pyrometrically determined temperatures: cesium and potassium, M. Lapp and L. P. Harris—3622

Larrabee, R. D.
Conditions existing at the onset of oscillistor action, R. D. Larrabee—880

Larson, D. A.
Gradients in mercury-rare-gas discharges, P. J. Walsh, G. W. Manning, and D. A. Larson—2273

Lasher, G. J.
Theory of optical frequency mixing in bulk photoconductors, G. J. Lasher and A. H. Nethercot, Jr.—2122(C)

Laskar, A.
Pipe diffusion in LiF, R. Tucker, A. Laskar, and R. Thomson—445

Lawson, G. J.
Electron microscopy of tin plate alloy layers, G. J. Ebben and G. J. Lawson—1825(C)

Lawson, K. D.
Low-temperature internal friction in nylon-4, K. D. Lawson, J. A. Sauer, and A. E. Woodward—2492(C)

Lax, Benjamin
Theory of semiconductor maser of GaAs, A. L. McWhorter, H. J. Zeiger, and Benjamin Lax—235(C)

Layton, J. K.
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810

Learn, Arthur J.
Behavior of film conductance during vacuum deposition, Arthur J. Learn and R. Spencer Spriggs—3012

LeCraw, R. C.
Generation of microwave elastic vibrations in a disk by ferromagnetic resonance, R. L. Comstock and R. C. LeCraw—3022

Lee, Tung-Ming
Method of determining dynamic properties of viscoelastic solids employing forced vibration, Tung-Ming Lee—1524
Vibration of sphere for determining the dilational constants of viscoelastic materials, Tung-Ming Lee—2150

Lee, Vin-Jang
Analytic expressions relating surface charge and potential profiles in the space-charge region in semiconductors, Vin-Jang Lee and Donald R. Mason—2660

LeGrand, D. G.
Rhe-optical properties of polymers. III. Dynamic polarized light scattering, D. G. LeGrand and P. F. Erhardt—68

Lehman, G. W.
Temperature and finite pulse-time effects in the flash method for measuring thermal diffusivity, J. A. Cape and G. W. Lehman—1909
Transient thermal diffusivity technique for refractory solids, J. A. Cape, M. M. Nakata, and G. W. Lehman—3550

Lehmann, Christian
Long-range channeling effects in irradiated crystals, Christian Lehmann and Gunther Leibfried—2821

Leibfried, Gunther
Long-range channeling effects in irradiated crystals, Christian Lehmann and Gunther Leibfried—2821

Leite, R. C. C.
Super radiant narrowing in fluorescence radiation of inverted populations, Amnon Yariv and R. C. C. Leite—3410(C)

Leitz, Christoph
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368

LeMay, Charlotte Z.
Constitutional supercooling and facet formation of GaAs, Charlotte Z. LeMay—439(C)

Lengyel, Bela A.
Evolution of the giant pulse in a laser, William G. Wagner and Bela A. Lengyel—2040

Lesensky, L.
NbZr superconducting critical current dependence on dI/dt, L. Lesensky and P. W. Neurath—710(C)

Leslie, D. H.
High-field superconducting properties of Ti-Mo alloys, R. R. Hake and D. H. Leslie—270

Lever, R. F.
Epitaxial grown of germanium using water vapor, R. F. Lever and F. Jona—3139(C)

Levine, David
Unresolved fine structure of the nitric oxide γ 0-0 band for the determination of temperature, David Levine—939

Levinstein, H. J.
Calcium tungstate: II—observation of dislocations, H. J. Levinstein, G. M. Loiacono, and K. Nassau—3603

Ley, R. P.
Thermal expansion of indium oxide, R. L. Weiher and R. P. Ley—1833(C)

Lezius, D. K.
Effect of temperature on the deformation of KCl-KBr alloys, N. S. Stoloff, D. K. Lezius, and T. L. Johnston—3316

Li, C. H.
A correlation of mechanical properties and microstructure of polytetrafluoroethylene at various temperatures, C. J. Speerschneider and C. H. Li—3004

Li, Che-Yu
Properties of Bi_2Te_3-Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li, and C. W. Spencer—1398

Li, H. Tung
Photoinduced discharge characteristics of amorphous selenium plates, H. Tung Li and Paul J. Regensburger—1730

Li, Tingye
Comment on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)

Libovický, S.
Influence of the silicon content on the crystallography of slip in iron–silicon alloy single crystals, S. Libovický and B. Šesták—2919(C)

Liebl, Helmut J.
Sputtering ion source for solids, Helmut J. Liebl and Richard F. K. Herzog—2893

Liebmann, W. K.
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653

Lighty, P. E.
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier—2233

Lilly, A. C., Jr.
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weissmann, and D. A. Lowitz—631
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weismann, and D. A. Lowitz—2124(E)

Lindenmeyer, P. H.
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42

Lindmayer, J.
Equilibrium charge, field, and potential distributions in semiconductors, J. Lindmayer, C. Wrigley, and K. Schoeni—800
One-carrier space-charge-limited current in solids, J. Lindmayer, J. Reynolds, and C. Wrigley—809

Lineweaver, Jack L.
Oxygen outgassing caused by electron bombardment of glass, Jack L. Lineweaver—1786

Litster, J. D.
Observation of the nuclear resonance in ferromagnetic iron to 65 000 atmospheres, J. D. Litster and G. B. Benedek—688

Little, R. P.
Electron emission preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—2430
Local anode heating preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—3141

Litvak, M. M.
Upper critical field of Nb–Zr and Nb–Ti alloys, A. El Bindari and M. M. Litvak—2913(C)

Livingston, J. D.
Precipitation and superconductivity in lead–tin and lead–cadmium alloys, J. D. Livingston—3028

Lockwood, H. F.
Polarization in junction luminescence, H. F. Lockwood—2110
Recombined radiation in GaAs, J. Black, H. Lockwood, and S. Mayburg—178

Loeb, Leonard B.
A photomultiplier and electronic study of Geiger counter pulses in air, Harold M. Herreman and Leonard B. Loeb—3160
Impulse streamer branching from Lichtenberg figure studies, Essam Nasser and Leonard B. Loeb—3340

Loferski, J. J.
Distribution of electron-bombardment-induced radiation defects with depth in silicon, H. Flicker and J. J. Loferski—2146

Logan, R. A.
GaP surface-barrier diodes, H. G. White and R. A. Logan—1990

Loh, Eugene
Reverse-bias-dependence of spectral photoresponse of Si and GaAs shallow p–n junctions near the band edge, Eugene Loh—416

Loiacono, G. M.
Calcium tungstate: II—observation of dislocations, H. J. Levinstein, G. M. Loiacono, and K. Nassau—3603

Long, Donald
Electrical properties of heavily doped silicon, P. W. Chapman, O. N. Tufte, J. D. Zook, and Donald Long—3292

Lothrop, Robert P.
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansen, Frederick S. Goulding, and Robert P. Lothrop—1570(C)

Lowitz, D. A.
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weissmann, and D. A. Lowitz—631
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weismann, and D. A. Lowitz—2124(E)

Luborsky, F. E.
Crystallographic orientation and oxidation of submicron whiskers of iron, iron–cobalt, and cobalt, F. E. Luborsky, E. F. Koch, and C. R. Morelock—2905
Effect of cobalt content on the properties of elongated iron particles, Fred E. Luborsky—1706
Particle size dependence of coercivity and remanence of single-domain particles, E. F. Kneller and F. E. Luborsky—656

Lundergan, C. D.
Equation of state of 6061-T6 aluminum at low pressures, C. D. Lundergan and Walter Herrmann—2046

Lunn, B.
Improved techniques for studying the growth of CdS crystals, P. D. Fochs and B. Lunn—1762

Luo, H. L.
CsCl-type compounds in binary alloys of rare-earth metals with gold and silver, C. C. Chao, H. L. Luo, and P. Duwez—1971

Lykken, G. I.
Compositional and angular dependence of the magnetostriction of thin iron–nickel films, E. N. Mitchell, G. I. Lykken, and G. D. Babcock—715

Lynch, R. T.
Growth and decoration of ZnTe crystals, R. T. Lynch, D. G. Thomas, and R. E. Dietz—706(C)

McCaldin, J. O.
Solubility of zinc in gallium arsenide, J. O. McCaldin—1748

McCall, S. L.
Observation of continuous-wave optical harmonics, S. L. McCall and L. W. Davis—2921(C)

McCarthy, K. A.
Surface features of alkali halide crystal pulled from the melt, J. L. Sampson and K. A. McCarthy—142

McCumber, D. E.
Linewidth and temperature shift of the R lines in ruby, D. E. McCumber and M. D. Sturge—1682

McDonald, B.
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591

McDonald, J. E.
Interface formation during thin film deposition, D. M. Mattox and J. E. McDonald—2493(C)
McFee, J. H.
Ultrasonic amplification and non-Ohmic behavior in CdS and ZnO, J. H. McFee—1548
McGuire, T. R.
Magnetic properties of lithium-substituted manganese ferrite, T. R. McGuire and F. S. Ferebee—1821
McMullen, J. G.
Laser-formed apertures for electron beam instruments, J. F. Norton and J. G. McMullen—3640(C)
McQuistan, Richmond B.
Calculation of the potential distribution at the surface of an intrinsic semiconductor, Richmond B. McQuistan—3626(C)
McSkimin, H. J.
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Adreatch, Jr.—651
McWhorter, A. L.
Theory of semiconductor maser of GaAs, A. L. McWhorter, H. J. Zeiger, and Benjamin Lax—235(C)

Ma, C. H.
X-ray irradiation effects on potassium iodide, C. H. Ma and J. Makris—441(C)
Macdonald, J. Ross
Transient and temperature response of a distributed, thermally activated system, J. Ross Macdonald—538
Mack, M.
$K\alpha$ satellite interference in x-ray diffractometer line profiles, W. Parrish, M. Mack, and J. Taylor—2544
Mackenzie, J. D.
Kinetics of melting and crystallization of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2239
Viscous flow and melt allotropy of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2245
MacLeod, Malcolm A.
Injection of high velocity charged particles into strong magnetic fields, Malcolm A. MacLeod and Ralph W. Waniek—1415
Mader, Siegfried
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
Madigan, J. R.
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Magnuson, G. D.
Sputtering yields of single crystals bombarded by 1 to 10 keV Ar^+ ions, G. D. Magnuson and C. E. Carlston—3268
Mahadevan, P.
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Mahan, G. D.
Proposal for beating two optical masers, G. D. Mahan and J. J. Hopfield—1531
Maitland, A.
Spark conditioning equation for plane electrodes in vacuum, A. Maitland—996(C)
Makris, J.
X-ray irradiation effects on potassium iodide, C. H. Ma and J. Makris—441(C)
Malafi, Hilary T.
Tunneling current density as a function of crystallographic polarity, Mirian T. Minamoto and Hilary T. Malafi—1876
Malmon, A. G.
Electron microscope observation of fission fragment tracks in plastics, A. G. Malmon—3634(C)
Mandelkern, Leo
Effect of hydrostatic pressures on the crystallization kinetics of natural rubber, Gordon M. Martin and Leo Mandelkern—2312
Manning, G. W.
Gradients in mercury–rare-gas discharges, P. J. Walsh, G. W. Manning, and D. A. Larson—2273
Marcinkowski, M. J.
Theoretical analysis of plastic deformation in superlattices based on the body-centered cubic structure, M. J. Marcinkowski and R. M. Fisher—2135
Marcus, Robert B.
Microstructure of thin single crystals of copper, L. O. Brockway and Robert B. Marcus—921
Marezio, M.
A single-crystal x-ray study of order in β'AgCd, C. B. Walker and M. Marezio—1443
Mariano, A. N.
Crystallographic polarity of ZnO crystals, A. N. Mariano and R. E. Hanneman—384
Mark, F. G.
Near-ultraviolet scattering for the determination of molecular dimensions, W. R. Krigbaum, P. Smith, and F. G. Mark—3218
Markovitz, Hershel
Free vibration experiment in the theory of linear viscoelasticity, Hershel Markovitz—21
Marks, Graham W.
Symmetry limitations to polarization of polycrystalline ferroelectrics, R. Daniel Redin, Graham W. Marks, and Charles E. Antoniak—600
Marshall, D. J.
Mass analysis of sputtered particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Marshall, H. L.
Application of the Garrett method to calculation of coil geometries for generating homogeneous magnetic fields in superconducting solenoids, H. L. Marshall and H. E. Weaver—3175
Martin, C. R.
Evidence for the existence of overlapping valence and conduction bands in SnTe, D. H. Damon, C. R. Martin, and R. C. Miller—3083
Martin, D. L.
"Coil simulation" testing of niobium–tin wire samples, C. H. Rosner, M. G. Benz, and D. L. Martin—2108(C)
Martin, Gordon M.
Effect of hydrostatic pressures on the crystallization kinetics of natural rubber, Gordon M. Martin and Leo Mandelkern—2312
Martin, Joel J.
Thermal conductivity measurements of silicon from 680° to 1000°K, Robert G. Morris and Joel J. Martin—2388
Martin, M. C.
Effect of quenching on the electrical resistivity of a β-brass single crystal, M. C. Martin—1835(C)

Mash, D. H.
Hollow cadmium sulfide crystals, D. H. Mash and F. Firth—3636(C)

Mason, Donald R.
Analytic expressions relating surface charge and potential profiles in the space-charge region in semiconductors, Vin-Jang Lee and Donald R. Mason—2660

Massalski, T. B.
Stacking fault probabilities of some alloys of copper and silver with zinc and cadmium, L. F. Vassamillet and T. B. Massalski—3398
Stacking fault probabilities of some internoble metal alloys, L. F. Vassamillet and T. B. Massalski—3402

Massey, J. T.
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schultz—703(C)

Master, B.
Dislocation channeling in neutron-irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)

Matlock, O. D.
A low density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece —3466

Mattes, Brenton L.
Secondary piezoresistivity in oxygen deficient $BaTiO_3$ single crystals, Brenton L. Mattes—682

Mattox, D. M.
Interface formation during thin film deposition, D. M. Mattox and J. E. McDonald—2493(C)

May, W. D.
Dynamics of a viscoelastic wear particle between sliding surfaces, W. D. May, E. L. Morris, and D. Atack—1920

Mayburg, Sumner
Cylindrical GaAs laser diode, K. M. Arnold and Sumner Mayburg—3136(C)
Dependence of recombination radiation on current in GaAs diodes, S. Mayburg and J. Black—1521
Recombination radiation in GaAs, J. Black, H. Lockwood, and S. Mayburg—178
Temperature limitations on continuous operation of GaAs lasers, Sumner Mayburg—3417(C)
Threshold currents for line narrowing in GaAs junction diodes, Sumner Mayburg—1791

Mayer, Ludwig
Photocontrol of growth rate of thin polymer films formed by electron bombardment, Ludwig Mayer—2088

Mayer, Walter G.
Reflection and refraction of mechanical waves at solid–liquid boundaries, Walter G. Mayer—909
Reflection and refraction of mechanical waves at solid–liquid boundaries. II, Walter G. Mayer—3287
Reflection and refraction of mechanical waves at solid–liquid boundaries, Walter G. Mayer—2922(E)

Mazzetti, P.
Power spectrum of the Barkhausen noise of various magnetic materials, P. Mazzetti and G. Montalenti—3224

Mazur, P.
Comments on the Eichenbaum–Hernqvist model of a low-pressure diode, P. Mazur—686
Influence of ion reflection probability on potential distribution in low-pressure thermionic converters, P. Mazur —1611

Mead, C. A.
Barrier height studies on metal–semiconductor systems, W. G. Spitzer and C. A. Mead—3061

Medved, D. B.
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Electron ejection and reflection properties of alkali and noble-gas ions and atoms, D. B. Medved—3142

Meece, V. J.
A low density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece —3466

Meechan, C. J.
Determination of Néel temperatures in fcc iron, U. Gonser, C. J. Meechan, A. H. Muir, and H. Wiedersich—2373

Mehl, W.
Decoration of imperfections on cleaved germanium, W. Mehl and M. C. Coutts—2120(C)

Melamed, N. T.
Optical properties of powders. Part I. Optical absorption coefficients and the absolute value of the diffuse reflectance. Part II. Properties of luminescent powders, N. T. Melamed—560

Melmed, Allan J.
Field-emission microscopy of twins in vapor-grown fcc whiskers, Allan J. Melmed—3326

Merkle, K. L.
Fission-fragment damage in gold films, K. L. Merkle, L. R. Singer, and R. K. Hart—2800

Meyer, Owen L.
Direct observation of charge storage in the surface states of silicon, G. G. Harman, R. L. Raybold, and Owen L. Meyer—380

Meyerhofer, Dietrich
Current flow in very thin films of Al_2O_3 and BeO, Dietrich Meyerhofer and Stefan A. Ochs—2535

Michaels, A. S.
Diffusion of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—13
Solution of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—1

Michel, A. E.
Interference between the infrared beams from opposite ends of a GaAs laser, A. E. Michel and E. J. Walker —2492(C)

Mihran, T. G.
Nonlinear rf behavior of electron beams with velocity distribution. I. General analysis, S. P. Yu and T. G. Mihran—2972
Nonlinear rf behavior of electron beams with velocity distribution. II. Application to rectangular velocity distribution, T. G. Mihran and S. P. Yu—2976

Mikoshiba, Nobuo
Magnetic-field dependence of the acoustoelectric effect, Nobuo Mikoshiba—510

Milanez, Fernando
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes —3138(C)

Milberg, M. E.
Application of the simplified cylindrical distribution function: orientation in linear polyethylene, M. E. Milberg —722

Miles, John L.
Bubble formation at metal–metal interfaces and its effect on the superconducting characteristics of aluminum–indium laminate films, John L. Miles and P. H. Smith —2109(C)

Miller, A.
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Miller, D. P.
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Miller, E. A.
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653
Miller, G. R.
Properties of Bi_2Te_3–Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li, and C. W. Spencer—1398
Miller, H. Craig
Paschen curve in nitrogen, H. Craig Miller—3418(C)
Miller, M. G.
Dislocation–impurity interactions and strain aging in AgCl, M. N. Kabler, M. G. Miller, and L. M. Slifkin—1953
Miller, R. C.
Evidence for the existence of overlapping valence and conduction bands in SnTe, D. H. Damon, C. R. Martin, and R. C. Miller—3083
Milligan, W. O.
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Milnes, A. G.
Piezoresistance of diffused layers in cubic semiconductors, D. R. Kerr and A. G. Milnes—727
Minamoto, Miriam T.
Tunneling current density as a function of crystallographic polarity, Miriam T. Minamoto and Hilary T. Malafi—1876
Minomura, S.
Effect of pressure on the electrical resistance of some transition-metal oxides and sulfides, S. Minomura and H. G. Drickamer—3043
Mitchell, E. N.
Compositional and angular dependence of the magnetostriction of thin iron-nickel films, E. N. Mitchell, G. I. Lykken, and G. D. Babcock—715
Mlavsky, A. I.
Crystal growth of GaAs from Ga by a traveling solvent method, A. I. Mlavsky and Martin Weinstein—2885
Montague, W. G.
X-ray diffractometer determination of the thermal expansion coefficient of aluminum near room temperature, H. M. Otte, W. G. Montague, and D. O. Welch—3149(C)
Montagu-Pollock, H. M.
Tracks in fission-fragment-bombarded lead iodide, L. T. Chadderton, H. M. Montagu-Pollock, and I. McC. Torrens—3090
Moore, C. R.
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Montalenti, G.
Power spectrum of the Barkhausen noise of various magnetic materials, P. Mazzetti and G. Montalenti—3224
Mooser, E.
Interacting partial dislocations in GaSe, Z. S. Basinski, D. B. Dove, and E. Mooser—469
Moran, H. S.
Studies of the longitudinal development of electron–photon cascade showers, C. D. Zerby and H. S. Moran—2445
Morelock, C. R.
Crystallographic orientation and oxidation of submicron whiskers of iron, iron–cobalt, and cobalt, F. E. Luborsky, E. F. Koch, and C. R. Morelock—2905
Morikawa, Minoru
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—211
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—1836(E)
Calculation of axially symmetric electrostatic fields of a system consisting of two coaxial equidiameter cylinders, Minoru Morikawa—3179
Polynomial approximation to focal constants of equidiameter two-cylinder lenses, Minoru Morikawa—1657
Morris, E. L.
Dynamics of a viscoelastic wear particle between sliding surfaces, W. D. May, E. L. Morris, and D. Atack—1920
Morris, Robert G.
Thermal conductivity measurements of silicon from 680° to 1000°K, Robert G. Morris and Joel J. Martin—2388
Morrison, J.
Low-energy electron-diffraction study of the surface reactions of germanium with oxygen and with iodine. II, J. J. Lander and J. Morrison—1411
Scattering factors and other properties of low-energy electron diffraction, J. J. Lander and J. Morrison—3516
Structural properties of cleaved silicon and germanium surfaces, J. J. Lander, G. W. Gobeli, and J. Morrison—2298
Structures of clean surfaces of germanium and silicon. I, J. J. Lander and J. Morrison—1403
Moruzzi, V. L.
Sublattice magnetizations in rare-earth garnets, E. L. Boyd, V. L. Moruzzi, and J. S. Smart—3049
Moss, Herbert I.
Tunnel-injection electroluminescence, Albrecht G. Fischer and Herbert I. Moss—2112(C)
Mow, C. C.
Scattering of plane compressional waves by a spherical obstacle, Yih-Hsing Pao and C. C. Mow—493
Mrdjenovich, R.
Solidification of lamellar eutectic systems, W. A. Tiller and R. Mrdjenovich—3639(C)
Muir, A. H.
Determination of Néel temperatures in fcc iron, U. Gonser, C. J. Meechan, A. H. Muir, and H. Wiedersich—2373
Muller, Richard S.
Behavior of gold blocking contacts to CdS at high impressed fields, Richard S. Muller—2401
Muller, Walter
Use of cataphoresis to determine discharge parameters, Walter Muller and Eldred F. Tubbs—969
Mullins, W. W.
Morphological stability of a particle growing by diffusion or heat flow, W. W. Mullins and R. F. Sekerka—323
Murphy, Preston V.
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes—3138(C)
Polarization of dielectrics by nuclear radiation. I. Release of space charge in electron irradiated dielectrics, Preston V. Murphy and Sergio Costa Ribeiro—2061

Nadeau, John S.
Hardening of potassium chloride by color centers, John S. Nadeau—2248
Nadler, N.
Elastic constants of UC, L. J. Graham, N. Nadler, and R. Chang—1572(C)

Nahemow, M.
Study of the cathode-fall region in a pulsed glow discharge, M. Nahemow and N. Wainfan—2988
Nakajima, Koichi
Crystallinity in fused silica induced by fast neutron irradiation, S. Weissmann and K. Nakajima—3152
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611
Nakamura, Yosio
Absorption measurements of ultrasonic waves in plastic sheets, Yosio Nakamura—3289
Nakanishi, N.
Quenched-in defects in CsCl-type alloys. I, C. M. Wayman, K. M. Thein, and N. Nakanishi—2842
Annealing of quenched-in defects in CsCl-type alloys. II, N. Nakanishi, K. M. Thein, and C. M. Wayman—2847
Nakata, M. M.
Transient thermal diffusivity technique for refractory solids, J. A. Cape, M. M. Nakata, and G. W. Lehman —3550
Nassau, K.
Calcium tungstate: II—observation of dislocations, H. J. Levinstein, G. M. Loiacono, and K. Nassau—3603
Nasser, Essam
Impulse streamer branching from Lichtenberg figure studdies, Essam Nasser and Leonard B. Loeb—3340
Nathan, Marshall I.
Quantum efficiency of ruby, Gerald Burns and Marshall I. Nathan—703(C)
Nelson, R. C.
Electronic conduction in glass, R. C. Nelson—629
Nethercot, A. H., Jr.
Theory of optical frequency mixing in bulk photoconductors, G. J. Lasher and A. H. Nethercot, Jr.—2122(C)
Neufeld, Jacob
Constitutive equations for a plasma-like medium, Jacob Neufeld—2549
Neumark, G. F.
Theoretical bound on the thermoelectric figure of merit of two-band semiconductors, E. S. Rittner and G. F. Neumark—2071
Neurath, P. W.
Arc cathode emission mechanisms at high currents and pressures, Peter W. Neurath and Thomas W. Gibbs —277
NbZr superconducting critical current dependence on dI/dt, L. Lesensky and P. W. Neurath—710(C)
Nevitt, M. V.
Ferromagnetism in V–Fe and Cr–Fe alloys, M. V. Nevitt and A. T. Alred—463
Newton, R. H. C.
A comment on perturbation of electron flow by Gordon Kent, R. H. C. Newton—440(C)
Newman, Roger
Excitation of the Nd^{3+} fluorescence in $CaWO_4$ by recombination radiation in GaAs, Roger Newman—437(C)
Ngo, D. T.
Measurement of ferromagnetic resonance of thin Permalloy films at low bias field, D. T. Ngo—3626(C)
Ng-Yelim, Joyce
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Nibler, Ferdinand
Some properties of Ohmic metal–semiconductor contacts, Ferdinand Nibler—1572(C)
Nickerson, J. W.
DC electroluminescence in thin films of ZnS, P. Goldberg and J. W. Nickerson—1601
Nigh, H. E.
A method for growing rare-earth single crystals, H. E. Nigh—3324
Nobe, Ken
Effect of illumination on the electrode potential of copper single crystals in water, D. A. Chance and Ken Nobe —1824(C)
Nodvik, John S.
Theory of pulse propagation in a laser amplifier, Lee M. Frantz and John S. Nodvik—2346
Norton, J. F.
Laser-formed apertures for electron beam instruments, J. F. Norton and J. G. McMullen—3640(C)
Norwood, M. H.
Theory of Nernst generators and refrigerators, M. H. Norwood—594
Nowick, A. S.
Ionic conductivity and time-dependent polarization in NaCl crystals, P. H. Sutter and A. S. Nowick—734

Ochs, Stefan A.
Current flow in very thin films of Al_2O_3 and BeO, Dietrich Meyerhofer and Stefan A. Ochs—2535
Oddson, J. K.
Diffusion of a magnetic field into a conductor, with a moving boundary condition, J. K. Oddson—2097
Oen, O. S.
Ranges of energetic atoms in solids, O. S. Oen, D. K. Holmes, and Mark T. Robinson—302
Ogawa, Toru
A circularly polarized maser oscillator, Toru Ogawa—484
Okuda, S.
Study of dislocation relaxation peaks in gold and copper, S. Okuda—3107
Okumura, Koji
Drift and diffusion of activation in oxide-coated cathodes, Koji Okumura and Eugene B. Hensley—518
Olechna, D. J.
Wave propagation in an active dielectric slab, R. N. Hall and D. J. Olechna—2565
Olin, H.
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin —3492
Onogi, S.
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Orton, D. A.
Field-effect light modulation in germanium, B. O. Seraphin and D. A. Orton—1743
Oskam, H. J.
Pressure dependence of the cataphoretic effect in the rare gases, H. J. Oskam—711(C)
Oster, Ludwig
Resonance phenomena in a gaseous discharge in a strong magnetic field, Basil Beeken, Robert Goldman, and Ludwig Oster—1430
Otte, H. M.
X-ray diffractometer determination of the thermal expansion coefficient of aluminum near room temperature, H. M. Otte, W. G. Montague, and D. O. Welch— 3149(C)
Owen, A. E.
Comments on the paper "Volume conductivity of borosilicate glass" by Julius J. Muray, A. E. Owen—705(C)

Paananen, R. A.
Optical maser action in He–Hg rf discharges, R. A. Paananen, C. L. Tang, F. A. Horrigan, and H. Statz —3148(C)

Padden, F. J., Jr.
A phenomenological theory of spherulitic crystallization, H. D. Keith and F. J. Padden, Jr.—2409
Pakswer, S.
Negative resistance in thin anodic oxide films, S. Pakswer and K. Pratinidhi—711(C)
Pao, Yih-Hsing
Scattering of plane compressional waves by a spherical obstacle, Yih-Hsing Pao and C. C. Mow—493
Paoletti, A.
A polarized-neutron investigation of the $MnNi_3$ alloy, A. Paoletti and F. P. Ricci—1571(C)
Papadakis, Emmanuel P.
Attenuation of pure elastic modes in NaCl single crystals, Emmanuel P. Papadakis—1872
Rayleigh and stochastic scattering of ultrasonic waves in steel, Emmanuel P. Papadakis—265
Ultrasonic internal conical refraction in rocksalt and calcite, Emmanuel P. Papadakis—2168
Parker, R. L.
Electrical resistance–strain characteristics of thin evaporated metal films, R. L. Parker and A. Krinsky—2700
Parrish, W.
$K\alpha$ satellite interference in x-ray diffractometer line profiles, W. Parrish, M. Mack, and J. Taylor—2544
Parzen, P.
Multiple charge exchange of an accelerated positive-ion beam in a neutral gas, P. Parzen—2322
Passaglia, Elio
Specific heat of atactic and isotactic polypropylene and the entropy of the glass, Elio Passaglia and Hagop K. Kevorkian—90
Pasternak, R. A.
A dynamic method for measuring total emissivities and specific heats of electrical conductors, R. A. Pasternak, H. U. D. Wiesendanger, and Björn Bergsnov-Hansen —3416(C)
Patel, J. R.
Impurity clustering effects on the anomalous transmission of x-rays in silicon, J. R. Patel and B. W. Batterman —2716
Macroscopic plastic properties of dislocation-free germanium and other semiconductor crystals. I. Yield behavior, J. R. Patel and A. R. Chaudhuri—2788
Velocities and densities of dislocations in germanium and other semiconductor crystals, A. R. Chaudhuri, J. R. Patel, and L. G. Rubin—240(E)
Peiffer, H. R.
Effect of prior deformation and recovery on the defect concentration increase during plastic deformation, H. R. Peiffer—298
Recovery of defects from 78° to 300°K in cadmium elongated at 78°K, H. R. Peiffer and F. R. Stevenson —2804
Peled, S.
Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207
Penn, T. C.
Ultrasonically induced switching in (80% Ni-20% Fe) ferromagnetic films, Turner E. Hasty, T. C. Penn, and Norman G. Einspruch—1685
Peselnick, Louis
Elastic constants of calcite, Louis Peselnick and Richard A. Robie—2494(C)
Petarra, D. P.
Damping spectrum of iron, D. P. Petarra and D. N. Beshers—2739
Peterlin, A.
NMR and dilatometric studies of polyethylene recrystallization, A. Peterlin and E. Roeckl—102
Peters, T.
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Peterson, H. L.
Use of Langmuir probes to study ion–electron recombination, C. B. Kretschmer and H. L. Peterson—3209
Peterson, J. M.
Dielectric constant of lead titanate zirconate ceramics at high frequency, R. Gerson, J. M. Peterson, and D. R. Rote—3247
Pettit, G. D.
Luminescence of GaAs grown in oxygen, W. J. Turner, G. D. Pettit, and N. G. Ainslie—3275
Phaneuf, L. E.
Grown-in dislocations in calcium tungstate crystals pulled from the melt, A. R. Chaudhuri and L. E. Phaneuf—2162
Philippoff, W.
Viscoelasticity of polymer solutions at high pressures and ultrasonic frequencies, W. Philippoff—1507
Piedmont, J. R.
Source of acceptors in low resistivity vacuum-deposited germanium films, E. G. Bylander, J. R. Piedmont, L. D. Shubin, and R. C. Smith—3407(C)
Pierce, C. B.
Defects introduced in neutron-irradiated Esaki diodes, C. B. Pierce and A. D. Kantz—1496
Pickard, William F.
Ion drag pumping. I. Theory, William F. Pickard—246
Ion drag pumping. II. Experiment, William F. Pickard —251
Pike, H. A.
Cathode particle vapors in a glow discharge in pulsed diodes, F. T. Worrell and H. A. Pike—3491
Pilkington, T. C.
Prediction of Curie temperatures in ternary Fe–Co–Ni alloys, J. L. Artley, T. C. Pilkington, and F. T. Wooten—972
Pinch, H. L.
Surface decoration and domains in very thin magnetic films, M. D. Coutts and H. L. Pinch—2113(C)
Polanyi, Thomas G.
Gaseous optical maser with external mirrors, Thomas G. Polanyi and William R. Watson—553
Radiation patterns of confocal He–Ne laser, W. R. Watson and Thomas G. Polanyi—708(C)
Reply to comments on "Gaseous optical maser with external mirror," T. G. Polanyi and W. R. Watson—3412(C)
Poleshuk, M.
Microplasma breakdown in germanium, M. Poleshuk and P. H. Dowling—3069
Pollack, S. R.
Oscillatory tunneling current through thin-film insulating barriers in a magnetic field, N. Goldberg and S. R. Pollack—3556
Schottky field emission through insulating layers, S. R. Pollack—877
Porter, R. S.
Order and flow of liquid crystals: the cholesteric mesophase, R. S. Porter and J. F. Johnson—55
Order and flow of liquid crystals: the nematic mesophase, R. S. Porter and J. F. Johnson—51
Porto, S. P. S.
Calcium niobate $Ca(NbO_3)_2$—a new laser host crystal, A. A. Ballman, S. P. S. Porto, and A. Yariv—3155

Potteiger, Lester A.
Explosive-induced pressures in iron, William G. Soper and Lester A. Potteiger—1817
Powers, J.
Optical observation of pressure induced transitions in polymers, A. Van Valkenburg and J. Powers—2433
Pratinidhi, K.
Negative resistance in thin anodic oxide films, S. Pakswer and K. Pratinidhi—711(C)
Pratt, B.
Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207
Space-charge polarization in photoconducting insulators, E. Harnik and B. Pratt—1804
Price, P. B.
Charged particle tracks in glass, R. L. Fleischer and P. B. Price—2903
Priest, J. R.
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, J. R. Priest—3262
Stress anisotropy in silicon oxide films, J. R. Priest, H. L. Caswell, and Y. Budo—347
Primak, W.
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
Radiation-induced cavities and exfoliation, William Primak—3630(C)
Pugh, E. N.
Tear marks on cleaved germanium surfaces, D. Haneman and E. N. Pugh—2269
Pundsack, Arnold L.
Analysis of thin-film germanium epitaxially deposited onto calcium fluoride, Arnold L. Pundsack—2306

Queisser, H. J.
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—3153(E)

Rabinowitz, M.
Effects of glass contamination and electrode curvature on electrical breakdown in vacuum, E. E. Donaldson and M. Rabinowitz—319
Ralph, J. C.
Low-voltage glow discharge in atmospheric pressure argon with small additions of cesium or potassium, J. C. Ralph —2499(C)
Ramsey, T. H.
Some thermoelectric properties of polycrystalline lanthanum telluride, $LaTe_{1.7}$ to $LaTe_{2.9}$, T. H. Ramsey, Hugo Steinfink, and E. J. Weiss—2917(C)
Raybold, R. L.
Direct observation of charge storage in the surface states of silicon, G. G. Harman, R. L. Raybold, and Owen L. Meyer—380
Redin, R. Daniel
Symmetry limitations to polarization of polycrystalline ferroelectrics, R. Daniel Redin, Graham W. Marks, and Charles E. Antoniak—600
Reeber, M. D.
Heat transfer to boiling helium, M. D. Reeber—481
Reed, Thomas B.
Heat-transfer intensity from induction plasma flames and oxy-hydrogen flames, Thomas B. Reed—2266
High-power low-density induction plasmas, Thomas B. Reed—3146(C)

Regensburger, Paul J.
Photoinduced discharge characteristics of amorphous selenium plates, H. Tung Li and Paul J. Regensburger —1730
Reich, A. D.
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Reinen, D.
Anisotropic behavior in superparamagnetic systems, I. Yasumori, D. Reinen, and P. W. Selwood—3544
Remeika, J. P.
Diffraction of light by domain structure in ferromagnetic $CrBr_3$, J. F. Dillon, Jr. and J. P. Remeika—637
Reuter, W.
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500
Reynolds, J.
One-carrier space-charge-limited current in solids, J. Lindmayer, J. Reynolds, and C. Wrigley—809
Ribbens, W. B.
Effect of electromagnetic propagation on the magnetostatic modes, W. B. Ribbens—2639
Ricci, F. P.
A polarized-neutron investigation of the $MnNi_3$ alloy, A. Paoletti and F. P. Ricci—1571(C)
Rice, Melvin H.
Elastic-plastic properties of iron, John W. Taylor and Melvin H. Rice—364
Richards, J. L.
Epitaxy of compound semiconductors by flash evaporation, J. L. Richards, P. B. Hart, and L. M. Gallone—3418(C)
Richardson, J. T.
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Riddiford, A. W.
A model for a diffusive magnetothermoelectric generator, A. W. Riddiford and J. A. Krumhansl—3572
Rigrod, W. W.
Comment on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)
Diffraction studies with plane-parallel maser interferometer, W. W. Rigrod and A. J. Rustako, Jr.—967
Gain saturation and output power of optical masers, W. W. Rigrod—2602
Rindner, W.
Plastic deformation of germanium at and below room temperature, W. Rindner and R. F. Tramposch—758
Resistance of elastically deformed shallow p–n junctions. II, W. Rindner and I. Braun—1958
Rittner, E. S.
Theoretical bound on the thermoelectric figure of merit of two-band semiconductors, E. S. Rittner and G. F. Neumark—2071
Roberts, Louis D.
Study of the transition of small niobium–zirconium superconducting solenoids to the normal state, Roger W. Boom and Louis D. Roberts—2422
Robie, Richard A.
Elastic constants of calcite, Louis Peselnick and Richard A. Robie—2494(C)
Robinson, Laurence C.
Use of electron paramagnetic resonance for the exploration of radio frequency field patterns in microwave structures, Laurence C. Robinson—1495
Robinson, M. R.
Sputtering experiments with 1- to 5-keV Ar^+ ions, A. L. Southern, W. R. Willis, and M. R. Robinson—153

Robinson, Mark T.
Ranges of energetic atoms in solids, O. S. Oen, D. K. Holmes, and Mark T. Robinson—302
Roeckl, E.
NMR and dilatometric studies of polyethylene recrystallization, A. Peterlin and E. Roeckl—102
Roesch, Louis
Influence of preferred orientation on the Hall effect in titanium, Louis Roesch and R. H. Willens—2159
Rogers, Leo A.
Compressibility of solids and liquids at high pressures, Melvin A. Cook and Leo A. Rogers—2330
Rol, P. K.
Angular-dependent sputtering of copper single crystals, J. M. Fluit, P. K. Rol, and J. Kistemaker—690
Rolsten, R. F.
Air cavity explosive charge for accelerating discrete particles, R. F. Rolsten and J. N. Wellnitz—2910
Hypervelocity impact of radioactive projectiles into stainless steel and aluminum, R. F. Rolsten and R. A. Schmitt —3010
Rose, R. M.
Niobium–thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Rosner, C. H.
"Coil simulation" testing of niobium–tin wire samples, C. H. Rosner, M. G. Benz, and D. L. Martin—2108(C)
Relating measurements on short superconducting wires to solenoid performance, C. H. Rosner and H. W. Schadler —2107(C)
Ross, K. J.
Anode work function changes caused by sublimation from barium oxide under applied anode potentials, B. J. Hopkins and K. J. Ross—2111(C)
Ross, R. G.
Production of high-purity Li^7F crystals, C. F. Weaver, R. G. Ross, and R. E. Thoma—1827(C)
Rossing, Thomas D.
Resonance linewidth and anisotropy variation in thin films, Thomas D. Rossing—995(C)
Rote, D. R.
Dielectric constant of lead titanate zirconate ceramics at high frequency, R. Gerson, J. M. Peterson, and D. R. Rote—3243
Roth, H.
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid—669
Roy, Rustum
Relation of equilibrium phase-transition pressure to ionic radii, V. S. Stubican and Rustum Roy—1888
Rubin, L. G.
Velocities and densities of dislocations in germanium and other semiconductor crystals, A. R. Chaudhuri, J. R. Patel, and L. G. Rubin—240(E)
Ruff, A. W., Jr.
Dislocations and chemical etch pits in copper, A. W. Ruff, Jr.—1573(E)
Ruge, Ingolf
Mutual interaction between microplasmas in silicon p–n junctions, Ingolf Ruge and Gunter Keil—3307
Ruoff, A. L.
On strain-enhanced diffusion in metals. I. Point defect models, R. W. Balluffi and A. L. Ruoff—1634
Strain-enhanced diffusion in metals. II. Dislocation and grain-boundary short-circuiting models, A. L. Ruoff and R. W. Balluffi—1848
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi—2862
Russ, Malcolm J.
Surface conduction in group II–VI semi-insulators, Malcolm J. Russ—1831(C)
Rustako, A. J., Jr.
Diffraction studies with plane-parallel maser interferometer, W. W. Rigrod and A. J. Rustako, Jr.—967

Sampson, J. L.
Surface features of alkali halide crystal pulled from the the melt, J. L. Sampson and K. A. McCarthy—142
Sarkar, N. H.
Electron scattering at small angles by carbon, N. H. Sarkar—2379
Sartain, C. C.
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Sasaguri, K.
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Sasaki, Yozo
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki—867
Sauer, J. A.
Low-temperature internal friction in nylon-4, K. D. Lawson, J. A. Sauer, and A. E. Woodward—2492(C)
Savage, William R.
High-field electron emission from gallium arsenide, William R. Savage—732
Scarlett, R. M.
Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Schadler, H. W.
Relating measurements on short superconducting wires to solenoid performance, C. H. Rosner and H. W. Schadler —2107(C)
Schlömann, Ernst
DC magnetic moment induced by a strong rf magnetic field applied parallel to the dc field, T. Kohane and E. Schlömann—1544
Higher-order spin-wave instability excited by parallel pumping, R. I. Joseph and E. Schlömann—2686
Spin-wave instability in hexagonal ferrites with a preferential plane, E. Schlömann, R. I. Joseph, and I. Bady —672
Transient growth of the spin-wave population in a strong rf magnetic field applied parallel to the dc field, Ernst Schlömann—1998
Schmid, A. P.
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid —669
Schmitt, R. A.
Hypervelocity impact of radioactive projectiles into stainless steel and aluminum, R. F. Rolsten and R. A. Schmitt —3010
Schoeni, K.
Equilibrium charge, field, and potential distributions in semiconductors, J. Lindmayer, C. Wrigley, and K. Schoeni—800

Scholz, F. J.
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—3154(E)
Schomberg, S.
An investigation of the constant-current characteristics of materials having a positive temperature coefficient of resistance, G. W. Wilson and S. Schomberg—3055
Schulz, A. G.
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schulz—703(C)
Schwarz, Helmut
Relation of rate and duration of evaporation to background pressure for the deposition of thin films in vacuum, Helmut Schwarz—2053
Schwoebel, Richard L.
Oxide formation on magnesium single crystals. I. Kinetics of growth, Richard L. Schwoebel—2776
Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784
Schwuttke, G. H.
Boron-induced microstrains in dislocation-free silicon crystals, G. H. Schwuttke—1662
X-ray analysis of stacking fault structures in epitaxially grown silicon, G. H. Schwuttke and V. Sils—3127
Seeger, Alfred
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
Seeger, Karlheinz
Microwave frequency multiplication by hot electrons, Karlheinz Seeger—1608
Sehr, Robert
Plasma edge in Bi_2Te_3, Robert Sehr and Louis R. Testardi —2754
Seiden, P. E.
Ferrimagnetic resonance linewidth in dense polycrystalline ferrites, P. E. Seiden and J. G. Grunberg—1696
Seidensticker, R. G.
Association in melted semiconductors, D. R. Hamilton and R. G. Seidensticker—2697
Growth mechanisms in germanium dendrites: three twin dendrites; experiments on and models for the entire interface, R. G. Seidensticker and D. R. Hamilton—3113
Growth mechanisms of germanium dendrites: kinetics and the nonisothermal interface, D. R. Hamilton and R. G. Seidensticker—1450
Sekerka, R. F.
Morphological stability of a particle growing by diffusion or heat flow, W. W. Mullins and R. F. Sekerka—323
Seki, Yasuo
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki—867
Self, S. A.
A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Some measurements of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2196
Selwood, P. W.
Anisotropic behavior in superparamagnetic systems, I. Yasumori, D. Reinen, and P. W. Selwood—3544
Seraphin, B. O.
Field-effect light modulation in germanium, B. O. Seraphin and D. A. Orton—1743
Šesták, B.
Influence of the silicon content on the crystallography of slip in iron–silicon alloy single crystals, S. Libovický and B. Šesták—2919(C)
Shallcross, F. V.
Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390
Shanefield, D.
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier —2233
Shapiro, A. R.
An electrodynamic Foucault pendulum, A. R. Shapiro and W. K. R. Watson—1553
Shappirio, J. R.
Metallic scattering centers in $CaWO_4$ laser crystals, J. R. Shappirio, T. A. AuCoin, and J. G. Gualtieri—3643(C)
Sheldon, John W.
Mobilities of the alkali metal ions in their own vapor, John W. Sheldon—444(C)
Shenoy, G. K.
Structure of subdivided Bloch walls, V. G. Bhide and G. K. Shenoy—1778
Shepard, M. L.
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Shepherd, W. G.
Temperature transients in oxide-coated cathodes during pulsed operation, D. A. Campbell and W. G. Shepherd —2473
Shewmon, Paul G.
Surface diffusion from a point source, Paul G. Shewmon —755
Shilliday, T. S.
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590
Shimizu, Michie
Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261
Shirley, Jon H.
Some causes of resonant frequency shifts in atomic beam machines. I. Shifts due to other frequencies of excitation, Jon H. Shirley—783
Some causes of resonant frequency shifts in atomic beam machines. II. The effect of slow frequency modulation on the Ramsey line shape, Jon H. Shirley—789
Shockley, W.
Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Shrier, A.
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier —2233
Shubin, L. D.
Source of acceptors in low resistivity vacuum-deposited germanium films, E. G. Bylander, J. R. Piedmont, L. D. Shubin, and R. C. Smith—3407(C)

Sibley, W. A.
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—2366
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—3644(E)
Hardening of potassium chloride single crystals by quenching and irradiation, Kazou Akimoto and W. A. Sibley—1767
Siegel, Benjamin M.
Investigation of the oxidation of copper by electron diffraction, Eiji Yoda and Benjamin M. Siegel—1512
Sieglaff, C. L.
Frictional properties of polyvinyl chloride, C. L. Sieglaff and M. E. Kucsma—342
Sils, V.
X-ray analysis of stacking fault structures in epitaxially grown silicon, G. H. Schwuttke and V. Sils—3127
Silverman, S. J.
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
Simmons, Gene
Elastic constants of pyrite, Gene Simmons and Francis Birch—2736
Simmons, John G.
Electric tunnel effect between dissimilar electrodes separated by a thin insulating film, John G. Simmons—2581
Generalized formula for the electric tunnel effect between similar electrodes separated by a thin insulating film, John G. Simmons—1793
Low-voltage current-voltage relationship of tunnel junctions, John G. Simmons—238(C)
Potential barrier shape determination in tunnel junctions, John G. Simmons and George J. Unterkofler—1828(C)
Sims, Chester T.
Total emittance of rhenium, Gordon B. Gaines and Chester T. Sims—2922(C)
Singer, J.
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Singer, L. R.
Fission-fragment damage in gold films, K. L. Merkel, L. R. Singer, and R. K. Hart—2800
Sivertsen, J. M.
Stacking faults in silver–lithium alloys, R. C. Sundahl and J. M. Sivertsen—994(C)
Skinner, John G.
Effect of gas flow on the microwave dielectric breakdown of oxygen, John G. Skinner and James J. Brady—975
Slichter, W. P.
Nuclear magnetic resonance studies of molecular motion in natural rubber, W. P. Slichter and D. D. Davis—98
Slie, W. M.
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Slifkin, L. M.
Dislocation–impurity interactions and strain aging in AgCl, M. N. Kabler, M. G. Miller, and L. M. Slifkin—1953
Sliker, T. R.
Some dielectric and optical properties of KD_2PO_4, T. R. Sliker and S. R. Burlage—1837
Smart, J. S.
Sublattice magnetizations in rare-earth garnets, E. L. Boyd, V. L. Moruzzi, and J. S. Smart—3049
Smith, A. J.
Mass analysis of sputtered particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Smith, Archibald W.
Observation of an optical difference frequency, Archibald W. Smith and Norman Braslau—2105(C)
Smith, D. O.
Switching thresholds of weakly coupled ferromagnetic domains, K. J. Harte and D. O. Smith—442(C)
Smith, J. F.
A comparison of the elastic constants of chromium as determined from diffuse x-ray and ultrasonic techniques, Ali Sumer and J. F. Smith—2691
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Smith, M. J.
Co^{60} γ-radiation-induced point defects in Bi_2Te_3, M. J. Smith—2879
Smith, P.
Near-ultraviolet scattering for the determination of molecular dimensions, W. R. Krigbaum, P. Smith, and F. G. Mark—3218
Smith, P. H.
Bubble formation at metal-metal interfaces and its effect on the superconducting characteristics of aluminum-indium laminate films, John L. Miles and P. H. Smith—2109(C)
Smith, R. C.
Source of acceptors in low resistivity vacuum-deposited germanium films, E. G. Bylander, J. R. Piedmont, L. D. Shubin, and R. C. Smith—3407(C)
Smullin, L. D.
Beam-plasma discharge: buildup of oscillations, W. D. Getty and L. D. Smullin—3421
Snow, W. B.
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059
Snowden, K. U.
Effect of gaseous environment on crack propagation, K. U. Snowden—3150(C)
Sodomsky, K. F.
Microwave measurements of moving striations in dc glow discharge, K. F. Sodomsky—1860
Sommers, H. S., Jr.
Response of photoconducting imaging devices with floating electrodes, H. S. Sommers, Jr.—2923
Sonder, E.
Gamma irradiation of silicon. II. Levels in *n*-type float-zone material, E. Sonder and L. C. Templeton—3296
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—2366
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—3644(E)
Soo, S. L.
Gas-solid suspensions at high temperatures, S. L. Soo—1689
Gas-solid suspensions at high temperatures, S. L. Soo—3644(E)
Soonpaa, H. H.
Laue patterns and zone structure of Bi_2Te_3, H. H. Soonpaa—3600
Sooy, W. R.
Energy density distribution in a polished cylinder of laser material, W. R. Sooy and M. L. Stitch—1719
Soper, William G.
Explosive-induced pressures in iron, William G. Soper and Lester A. Potteiger—1817
Sorokin, P. P.
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500

Spectral characteristics of GaAs lasers operating in "Fabry–Perot" modes, P. P. Sorokin, J. D. Axe, and J. R. Lankard—2553

Southern, A. L.
Sputtering experiments with 1- to 5-keV Ar^+ ions, A. L. Southern, W. R. Willis, and M. R. Robinson—153

Southgate, P. D.
Thermally activated dislocation kink motion in silicon, P. D. Southgate and A. E. Attard—855

Soxman, E. J.
Hollow crytsals of hexagonal ZnS, E. J. Soxman—948

Spalter, J.
A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Some measurements of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2196

Spector, Harold N.
Weinreich relation in the presence of dc electric and magnetic fields, Harold N. Spector—3628(C)

Speerschneider, C. J.
A correlation of mechanical properties and microstructure of polytetrafluoroethylene at various temperatures, C. J. Speerschneider and C. H. Li—3004

Spencer, C. W.
Properties of Bi_2Te_3–Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li, and C. W. Spencer—1398

Spencer, E. G.
Elastic measurements on magnetic materials, R. T. Denton and E. G. Spencer—1832(C)
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059

Spitzer, William G.
Barrier height studies on metal–semiconductor systems, W. G. Spitzer and C. A. Mead—3061
Phonon assignments in GaAs and CdS, William G. Spitzer—792

Spretnak, J. W.
Plastic deformation in magnesium oxide crystals subjected to rolling-contact stresses, M. F. Amateau and J. W. Spretnak—2340

Spriggs, R. Spencer
Behavior of film conductance during vacuum deposition, Arthur J. Learn and R. Spencer Spriggs—3012

Stablein, Paul F.
Dislocation behavior and the yield stress in neutron-irradiated MgO, Paul F. Stablein—1867

Stadler, H. L.
Etched hillocks in $BaTiO_3$, H. L. Stadler—570
Nucleation and growth of ferroelectric domains in $BaTiO_3$ at fields from 2 to 450 kV/cm, H. L. Stadler and P. J. Zachmanidis—3256

Stafford, D. F.
Photoelectric and thermionic Schottky deviations for tungsten single crystals, D. F. Stafford and A. H. Weber—2667

Stamper, John A.
Effect of magnetic field reversal on the determination of certain thermomagnetic coefficients, John A. Stamper—2919(C)

Statz, H.
Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
Optical maser action in He–Hg rf discharges, R. A. Paananen, C. L. Tang, F. A. Horrigan, and H. Statz—3148(C)
Spectral output and spiking behavior of solid-state lasers, C. L. Tang, H. Statz, and G. deMars—2289

Stegun, Irene A.
Ferroelectric switching and the Sievert integral, P. H. Fang and Irene A. Stegun—284

Stein, Irving
Analysis of noise from magnetic storage media, Irving Stein—1976

Stein, R. S.
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Scattering of light by heterogeneous spheres, R. S. Stein, P. R. Wilson, and S. N. Stidham—46

Steinert, Leon A.
Ferromagnetic resonance and shape-dependent effects, Leon A. Steinert—2106

Steinfink, Hugo
Some thermoelectric properties of polycrystalline lanthanum telluride, $LaTe_{1.7}$ to $LaTe_{2.2}$, T. H. Ramsey, Hugo Steinfink, and E. J. Weiss—2917(C)

Steijn, R. P.
Sliding and wear in ionic crystals, R. P. Steijn—419

Stelzer, E. L.
Piezoresistive properties of silicon diffused layers, O. N. Tufte and E. L. Stelzer—313

Stern, R. A.
Microwave reflection from small-diameter plasma columns, R. A. Stern—2562

Stetson, R. F.
Investigation of electron trajectories in an axially symmetric magnetic field, R. F. Stetson, B. N. A. Lamborn, and D. L. Lafferty—516

Stevenson, D. A.
Concerning an intermediate phase in the Ag–Sb–Te system, R. A. Burmeister and D. A. Stevenson—1833(C)

Stevenson, F. R.
Recovery of defects from 78° to 300°K in cadmium elongated at 78°K, H. R. Peiffer and F. R. Stevenson—2804

Stevenson, M. J.
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500

Stickney, Robert E.
Thermionic emission from an exponential patch distribution, Robert E. Stickney—3145(C)

Stidham, S. N.
Scattering of light by heterogeneous spheres, R. S. Stein, P. R. Wilson, and S. N. Stidham—46

Stilwell, G. R.
Surface lines on soda-lime glass slides, G. R. Stilwell and D. B. Dove—1941

Stirling, W. L.
A low-density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece—3466

Stitch, M. L.
Energy density distribution in a polished cylinder of laser material, W. R. Sooy and M. L. Stitch—1719

Stockbridge, C. D.
Quartz resonators; reduction of transient frequency excursion due to temperature change, A. W. Warner and C. D. Stockbridge—437(C)

Stocker, Tom L.
Mode selection properties of segmented rod lasers, Milton Birnbaum and Tom L. Stocker—3414(C)

Stoloff, N. S.
Effect of temperature on the deformation of KCl–KBr alloys, N. S. Stoloff, D. K. Lezius, and T. L. Johnston—3316

Strack, Hans
Ion bombardment of silicon in a glow discharge, Hans Strack—2405

Strakna, R. E.
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Strnad, A. R.
Inductive behavior of superconducting magnets, C. F. Hempstead, Y. B. Kim, and A. R. Strnad—3227
Stubican, V. S.
Relation of equilibrium phase-transition pressure to ionic radii, V. S. Stubican and Rustum Roy—1888
Stuetzer, Otmar M.
Gas bubbles in a charged liquid, Otmar M. Stuetzer—958
Stupp, Edward H.
Photoconductivity in CdSe, Edward H. Stupp—163
Sturge, M. D.
Linewidth and temperature shift of the R lines in ruby, D. E. McCumber and M. D. Sturge—1682
Styris, D. L.
Anomalous diffusion rate for small penetration distance in copper, D. L. Styris and C. T. Tomizuka—1001(C)
Subramanian, K. N.
Fatigue deformation of magnesium oxide, K. N. Subramanian and Jack Washburn—3394
Sudan, R. N.
Interaction of a conducting fluid stream with a traveling wave of magnetic field of finite extension, R. N. Sudan—641
Sumer, Ali
A comparison of the elastic constants of chromium as determined from diffuse x-ray and ultrasonic techniques, Ali Sumer and J. F. Smith—2691
Sundahl, R. C.
Stacking faults in silver–lithium alloys, R. C. Sundahl and J. M. Sivertsen—994(C)
Sutter, P. H.
Ionic conductivity and time-dependent polarization in NaCl crytsals, P. H. Sutter and A. S. Nowick—734
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Sutton, George W.
End losses in magnetohydrodynamic channels with tensor electrical conductivity and segmented electrodes, George W. Sutton—396
Svec, Harry J.
Improvement of the ion transmission in a typical mass spectrometer ion source, Robert J. Conzemius and Harry J. Svec—2486(C)
Svelto, O.
Photoconductive mixing in CdSe single crystals, O. Svelto, P. D. Coleman, and M. DiDomenico, Jr.—3182
Swihart, James
Theory of the phase transition in a cylindrical superconductor, James C. Swihart—851

Takayanagi, Shigetoshi
Cd and Te dislocations in CdTe, Morio Inoue, Iwao Teramoto, and Shigetoshi Takayanagi—404
Tallan, N. M.
An anomalous dissipation factor maximum in sapphire, N. M. Tallan and D. P. Detwiler—1650
Tamai, Y.
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Tang, C. L.
Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
On maser rate equations and transient oscillations, C. L. Tang—2935
Optical maser action in He–Hg rf discharges, R. A. Paananen, C. L. Tang, F. A. Horrigan, and H. Statz—3148(C)
Spectral output and spiking behavior of solid-state lasers, C. L. Tang, H. Statz, and G. deMars—2289
Tarmy, B. M.
Galvano-thermomagnetic phenomena. IV. Application to anisotropic adiabatic Nernst generators, T. C. Harman, J. M. Honig, and B. M. Tarmy—2215
Theory of galvano-thermomagnetic energy conversion devices. V. Devices constructed from anisotropic materials, T. C. Harman, J. M. Honig, and B. M. Tarmy—2225
Taylor, J.
$K\alpha$ satellite interference in x-ray diffractometer line profiles, W. Parrish, M. Mack, and J. Taylor—2544
Taylor, John W.
Elastic-plastic properties of iron, John W. Taylor and Melvin H. Rice—364
Residual temperatures of shocked copper, John W. Taylor—2727
Taylor, R. McK.
Anomalous discharges in ferroelectrics, R. M. Huey and R. McK. Taylor—1557
Teitler, S.
Generation–recombination noise in an impurity semiconductor, S. Teitler—2751
Templeton, L. C.
Gamma irradiation of silicon. II. Levels in n-type float-zone materials, E. Sonder and L. C. Templeton—3296
Teramoto, Iwao
Cd and Te dislocations in CdTe, Morio Inoue, Iwao Teramoto, and Shigetoshi Takayanagi—404
Testardi, Louis R.
Plasma edge in Bi_2Te_3, Robert Sehr and Louis R. Testardi—2754
Testerman, M. K.
Apparatus for measuring relative roughness factors of inert metals by the adsorption of radioactive iodine, M. K. Testerman and R. D. Hartman—1492
Teutonico, L. J.
Dynamical behavior of dislocations in the primary slip systems of body-centered cubic crystals, L. J. Teutonico—950
Theimer, O.
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Thein, K. M.
Quenched-in defects in CsCl-type alloys. I, C. M. Wayman, K. M. Thein, and N. Nakanishi—2842
Annealing of quenched-in defects in CsCl-type alloys. II, N. Nakanishi, K. M. Thein, and C. M. Wayman—2847
Thieringer, Hans-Martin
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
Thoma, R. E.
Production of high-purity Li^7F crystals, C. F. Weaver, R. G. Ross, and R. E. Thoma—1827(C)
Thomas, A.
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Thomas, D. G.
Growth and decoration of ZnTe crystals, R. T. Lynch, D. G. Thomas, and R. E. Dietz—706(C)

Thomas, G.
Formation of diamond-shaped prismatic loops in quenched fcc metals, Alf Eikum and G. Thomas—3363
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—3153(E)
Thomas, R. E.
Investigation of the patch effect in uranium carbide, G. A. Haas and R. E. Thomas—3457
Thomassen, K. I.
Interaction between a dielectric (or cold plasma) and a cavity, K. I. Thomassen—1622
Thompson, H. W., Jr.
Abrupt vs diffused semiconductor junctions, Y. F. Chang and H. W. Thompson, Jr.—3137(C)
Thomson, R.
Pipe diffusion in LiF, R. Tucker, A. Laskar, and R. Thomson—445
Tiller, W. A.
Ice interface morphology and texture developed during freezing, J. D. Harrison and W. A. Tiller—3349
Migration of a liquid zone through a solid: part I, W. A. Tiller—2757
Migration of a liquid zone through a solid: part II, W. A. Tiller—2763
Applicability of minimum rate of entropy production to the solidification of lamellar eutectics, W. A. Tiller—3615
Solidification of lamellar eutectic systems, W. A. Tiller and R. Mrdjenovich—3639(C)
Tobias, Irwin
Steady-state output power of a laser as a function of the single-pass gain, Irwin Tobias—3200
Todd, E. G.
End-effect correction for strip beam ion engines, N. B. Kramer and E. G. Todd—3140(C)
Tokheim, R. E.
Pumping effects contributing to the excitation of phonon instabilities in ferromagnetic insulators, B. A. Auld, R. E. Tokheim, and D. K. Winslow—2281
Tokuda, T.
Oxygen diffusion and vaporization rates for liquid and solid germanium dioxide, T. Tokuda and W. D. Kingery—2104(C)
Tomizuka, C. T.
Anomalous diffusion rate for small penetration distance in copper, D. L. Styris and C. T. Tomizuka—1001(C)
Torrens, I. McC.
Tracks in fission-fragment-bombarded lead iodide, L. T. Chadderton, H. M. Montagu-Pollock, and I. McC. Torrens—3090
Tosima, S.
New type of two-stream plasma instability, S. Tosima and R. Hirota—2993
Touchard, L. J.
Elastic properties of semiconducting crystals belonging to the diamond, blende, and wurtzite types, L. J. Touchard—2694
Touw, T. R.
Large differences in surface ionization efficiencies between K and its halides on the contaminated surface of a Pt alloy (8% W) wire, T. R. Touw and J. W. Trischka—3635(C)
Tramposch, R. F.
Plastic deformation of germanium at and below room temperature, W. Rindner and R. F. Tramposch—758
Treuting, R. G.
A diffractometer study of long-range ordering in Ni_3Fe and associated Permalloys, R. G. Treuting and B. W. Batterman—2005
Trischka, J. W.
Large differences in surface ionization efficiencies between K and its halides on the contaminated surface of a Pt alloy (8% W) wire, T. R. Touw and J. W. Trischka—3635(C)
Truell, R.
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
Truitt, J.
Interdiffusion of gases in a low-permeability graphite. II. Influence of pressure gradients, R. B. Evans, III, G. M. Watson, and J. Truitt—2020
Trulio, J. G.
Mechanism of spall in Lucite, D. V. Keller and J. G. Trulio—172
Tsuya, Noboru
Domain patterns in electrodeposited nickel-iron thin films, Seizo Kainuma and Noboru Tsuya—795
Tubbs, Eldred F.
Use of cataphoresis to determine discharge parameters, Walter Muller and Eldred F. Tubbs—969
Tucker, R.
Pipe diffusion in LiF, R. Tucker, A. Laskar, and R. Thomson—445
Tufte, O. N.
Electrical properties of heavily doped silicon, P. W. Chapman, O. N. Tufte, J. D. Zook, and Donald Long—3292
Piezoresistive properties of silicon diffused layers, O. N. Tufte and E. L. Stelzer—313
Tuman, V. S.
Streaming potentials at very high differential pressures, V. S. Tuman—2014
Turnbull, D.
Kinetics of melting and crystallization of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2239
Viscous flow and melt allotropy of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2245
Turner, J. A.
Variation of coercivity of magnetic materials with driving field, G. R. Hoffman, J. A. Turner, and H. K. Lachowicz—2708
Turner, W. J.
Luminescence of GaAs grown in oxygen, W. J. Turner, G. D. Pettit, and N. G. Ainslie—3275

Unterkofler, George J.
Potential barrier shape determination in tunnel junctions, John G. Simmons and George J. Unterkofler—1828(C)
Theoretical curves of tunnel resistivity vs voltage, George J. Unterkofler—3143(C)
Uphoff, H. L.
Thermoelectric properties of diphasal systems combining As_2Te_3 and Tl_2Se with Sb_2Te_3, Bi_2Te_3, or Sb_2Se_3, H. L. Uphoff and J. H. Healy—390

Vance, Edward F.
One-sided multipactor discharge modes, Edward F. Vance—3238
van der Merwe, J. H.
Crystal interfaces. Part I. Semi-infinite crystals, J. H. van der Merwe—117
Crystal interfaces. Part II. Finite overgrowths, J. H. van der Merwe—123
Crystal interfaces: Part II. Finite overgrowths, J. H. van der Merwe—3420(E)

van der Ziel, A.
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and A. van der Ziel—2613
Probe noise in different regions of a gas discharge, D. G. Hanson and A. van der Ziel—1665
Van Hoven, G. C.
Negative energy fast waves in Brillouin flow beams, G. C. Van Hoven and T. Wessel-Berg—1834(C)
Van Valkenburg, A.
Optical observation of pressure induced transitions in polymers, A. Van Valkenburg and J. Powers—2433
Vanfleet, H. B.
Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Van Uitert, L. G.
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059
Varga, B.
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Vassamillet, L. F.
Stacking fault probabilities of some alloys of copper and silver with zinc and cadmium, L. F. Vassamillet and T. B. Massalski—3398
Stacking fault probabilities of some internoble metal alloys, L. F. Vassamillet and T. B. Massalski—3402
Velge, W. A. J. J.
Influence of milling upon the magnetic properties of the intermetallic compound MnAlGe, W. A. J. J. Velge and K. J. De Vos—3568
Venables, John D.
Identification of precipitates on grown-in dislocations in MgO, John D. Venables—293
Verderber, R. R.
Formation and orientation of MgAu alloy thin films, R. R. Verderber—2103(C)
Vieth, W. R.
Diffusion of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—13
Solution of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—1
Vreeland, T., Jr.
Dislocations and etch figures in high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—591
Etching of high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—587
Vural, Bayram
Noise on a drifting Maxwellian beam, Stanley Bloom and Bayram Vural—356
Space-charge-wave decay along a signal-current-excited multivelocity beam, S. Bloom and B. Vural—2007
Vuylsteke, Arthur A.
Theory of laser regeneration switching, Arthur A. Vuylsteke—1615

Wagner, E. O.
Field emission in rutile diodes, E. O. Wagner and W. W. Happ—259
Wagner, J. Bruce, Jr.
Dislocations and glide in lead sulfide as a function of deviations from stoichiometry and doping additions, W. M. Franklin and J. B. Wagner, Jr.—3121
Wagner, William G.
Evolution of the giant pulse in a laser, William G. Wagner and Bela A. Lengyel—2040
Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Wainfan, N.
Study of the cathode-fall region in a pulsed glow discharge, M. Nahemow and N. Wainfan—2988
Walker, C. B.
A reanalysis of short-range order in Cu_3Au, C. B. Walker and D. T. Keating—2309
A single-crystal x-ray study of order in β'AgCd, C. B. Walker and M. Marezio—1443
Walker, E. J.
Interference between the infrared beams from opposite ends of a GaAs laser, A. E. Michel and E. J. Walker—2492(C)
Walsh, P. J.
Gradients in mercury–rare-gas discharges, P. J. Walsh, G. W. Manning, and D. A. Larson—2273
Walsh, Peter
Laser operation without spikes in a ruby ring, Peter Walsh and G. Kemeny—956
Walton, Derek
Comment on "Formation conditions of thin epitaxial germanium films on single-crystal substrates," by Billy W. Sloope and Calvin O. Tiller, Derek Walton—1827(C)
Wang, Shyh
Proposal for a two-stage semiconductor laser through tunneling and injection, Shyh Wang—3443
Wangsness, Roald K.
Response of a simple photoconductor to a square light pulse, Roald K. Wangsness—664
Waniek, Ralph W.
Injection of high velocity charged particles into strong magnetic fields, Malcolm A. MacLeod and Ralph W. Waniek—1415
Warfield, George
Applicability of the band model to metal-free phthalocyanine single crystals, George H. Heilmeier, George Warfield, and Sol E. Harrison—2278
Warner, A. W.
Quartz resonators; reduction of transient frequency excursion due to temperature change, A. W. Warner and C. D. Stockbridge—437(C)
Warner, C., III
Ion-emission requirements for removal of electron space-charge barriers, L. K. Hansen and C. Warner, III—2574
Warren, B. E.
Single- and double-deformation faults in face-centered cubic crystals, B. E. Warren—1973
Warschauer, Douglas
Bridgman, Krebs, and processed black phosphorus, Douglas M. Warschauer—3630(C)
Electrical and optical properties of crystalline black phosphorus, Douglas Warschauer—1853
Warter, Peter J., Jr.
Effect of a small Stokes shift on the operation of three-level masers, Peter J. Warter, Jr.—2966
Washburn, J.
Fatigue deformation of magnesium oxide, K. N. Subramanian and Jack Washburn—3394
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—3153(E)
Watelski, S. B.
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Watson, G. M.
Interdiffusion of gases in a low-permeability graphite. II. Influence of pressure gradients, R. B. Evans, III, G. M. Watson, and J. Truitt—2020

Watson, Robert D.
Electrolytic conduction in calcium-doped solid cerium oxide, C. J. Kevane, E. L. Holverson, and Robert D. Watson—2083
Watson, W. K. R.
An electrodynamic Foucault pendulum, A. R. Shapiro and W. K. R. Watson—1553
Watson, William R.
Gaseous optical maser with external mirrors, Thomas G. Polanyi and William R. Watson—553
Radiation patterns of confocal He-Ne laser, W. R. Watson and Thomas G. Polanyi—708(C)
Reply to comments on "Gaseous optical maser with external mirror," T. G. Polanyi and W. R. Watson—3412(C)
Wayman, C. M.
Annealing of quenched-in defects in CsCl-type alloys. II, N. Nakanishi, K. M. Thein, and C. M. Wayman—2847
Quenched-in defects in CsCl-type alloys. I, C. M. Wayman, K. M. Thein, and N. Nakanishi—2842
Weaver, C. F.
Production of high-purity Li^7F crystals, C. F. Weaver, R. G. Ross, and R. E. Thoma—1827(C)
Weaver, H. E.
Application of the Garrett method to calculation of coil geometries for generating homogeneous magnetic fields in superconducting solenoids, H. L. Marshall and H. E. Weaver—3175
Weber, A. H.
Photoelectric and thermionic Schottky deviations for tungsten single crystals, D. F. Stafford and A. H. Weber—2667
Wehner, G. K.
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin—3492
Weiher, R. L.
Thermal expansion of indium oxide, R. L. Weiher and R. P. Ley—1833(C)
Weinreich, O. A.
Preparation of crystalline germanium films on metals, O. A. Weinreich and G. Dermit—225
Weinstein, Martin
Crystal growth of GaAs from Ga by a traveling solvent method, A. I. Mlavsky and Martin Weinstein—2885
Weisberg, L. R.
Measurements of the density of GaAs, L. R. Weisberg and J. Blanc—1002(C)
Weiser, K.
Ratio of interstitial to substitutional zinc in GaAs and its relation to zinc diffusion, K. Weiser—3387
Weismann, T. J.
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weissman, and D. A. Lowitz—631
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weismann, and D. A. Lowitz—2124(E)
Weiss, E. J.
Some thermoelectric properties of polycrystalline lanthanum telluride, $LaTe_{1.7}$ to $LaTe_{2.2}$, T. H. Ramsey, Hugo Steinfink, and E. J. Weiss—2917(C)
Weissberg, Harold L.
Effective diffusion coefficient in porous media, Harold L. Weissberg—2636
Weissman, Ira
Improved thermionic emitter using uniaxially oriented tungsten, Ira Weissman and M. L. Kinter—3187
Weissmann, Sigmund
Crystallinity in fused silica induced by fast neutron irradiation, S. Weissmann and K. Nakajima—3152
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier—2233
Welch, D. O.
X-ray diffractometer determination of the thermal expansion coefficient of aluminum near room temperature, H. M. Otte, W. G. Montague, and D. O. Welch—3149(C)
Wellnitz, J. N.
Air cavity explosive charge for accelerating discrete particles, R. F. Rolsten and J. N. Wellnitz—2910
Wendt, John F.
Surface ionization of potassium on tungsten, John F. Wendt and Ali Bulent Cambel—176
Wessel-Berg, T.
Negative energy fast waves in Brillouin flow beams, G. C. Van Hoven and T. Wessel-Berg—1834(C)
Westwood, A. R. C.
Cleavage surface energy of {100} magnesium oxide, A. R. C. Westwood and D. L. Goldheim—3336
Surface energy of {100} potassium chloride, A. R. C. Westwood and T. T. Hitch—3085
Whetten, N. Rey
Secondary electron emission of pyrolytic graphite cleaved in a high vacuum, N. Rey Whetten—771
White, David J.
Microwave-induced pyroelectric response in ferroelectric TGS, David J. White and H. H. Wieder—2487(C)
White, H. G.
GaP surface-barrier diodes, H. G. White and R. A. Logan—1990
White, R. M.
Elastic wave generation by electron bombardment or electromagnetic wave absorption, R. M. White—2123(C)
Generation of elastic waves by transient surface heating, R. M. White—3559
Whitney, W. T.
Electron emission preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—2430
Local anode heating preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—3141
Observations of deformation bands in amorphous polymers, Wells Whitney—3633(C)
Wieder, H. H.
Microwave-induced pyroelectric response in ferroelectric TGS, David J. White and H. H. Wieder—2487(C)
Wiederhorn, S.
Fracture on (110) planes in LiF, S. Wiederhorn—2125
Wiedersich, H.
Determination of Néel temperatures in fcc iron, U. Gonser, C. J. Meechan, A. H. Muir, and H. Wiedersich—2373
Wiesendanger, H. U. D.
A dynamic method for measuring total emissivities and specific heats of electrical conductors, R. A. Pasternak, H. U. D. Wiesendanger, and Björn Bergsnow-Hansen—3416(C)
Wilder, D. R.
Self-diffusion in polycrystalline yttrium oxide, Michael F. Berard and D. R. Wilder—2318
Wiley, R. C.
Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475
Willens, R. H.
Influence of preferred orientation on the Hall effect in titanium, Louis Roesch and R. H. Willens—2159

Willett, Joseph E.
Analysis of wave propagation in a magnetoplasma-filled waveguide, Joseph E. Willett—3470
Quasi-one-fluid theory of wave propagation in a fully ionized plasma, Joseph E. Willett—574
Williams, A. J., III
Work function and thermal desorption in the system thorium-on-rhenium, J. Anderson, W. E. Danforth, and A. J. Williams, III—2260
Williams, C. M.
In-pile Hall coefficient and conductivity measurements on zone refined, *p*-type silicon, G. C. Bailey and C. M. Williams—1935
Williams, David J.
An analysis of *exo*-electron glow curves, Joseph F. Young and David J. Williams—3157
Williams, H. Bartel
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Williams, Malcolm L.
Extension of unoriented nylon 66 filaments, Malcolm F. Bender and Malcolm L. Williams—3330
Williamson, G. K.
Deformation of graphite by thermal cycling, G. M. Jenkins and G. K. Williamson—2837
Willis, W. R.
Sputtering experiments with 1- to 5-keV Ar^+ ions, A. L. Southern, W. R. Willis, and M. R. Robinson—153
Wilson, G. V. H.
Modulation broadening of NMR and ESR line shapes, G. V. H. Wilson—3277
Wilson, G. W.
An investigation of the constant-current characteristics of materials having a positive temperature coefficient of resistance, G. W. Wilson and S. Schomberg—3055
Wilson, P. R.
Scattering of light by heterogeneous spheres, R. S. Stein, P. R. Wilson, and S. N. Stidham—46
Wimmer, F. T.
Tensile properties of NaCl–BaNr solid solution single crystals, F. T. Wimmer, W. Kobes, and M. E. Fine—1775
Winslow, D. K.
Pumping effects contributing to the excitation of phonon instabilities in ferromagnetic insulators, B. A. Auld, R. E. Tokheim, and D. K. Winslow—2281
Winters, H. F.
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
Wold, A.
Growth of ferrous-free cobalt ferrite single crystals, A. Ferretti, W. Kunnmann, and A. Wold—388
Wolfstirn, K. B.
Acceptors in donor-doped GaAs resulting from Li diffusion, C. S. Fuller and K. B. Wolfstirn—1914
Changes in electron concentration of donor-doped GaAs crystals caused by annealing, C. S. Fuller and K. B. Wolfstirn—2287
Woods, J. F.
Role of oxygen in reducing silicon contamination of GaAs during crystal growth, J. F. Woods and N. G. Ainslie—1469
Woodward, A. E.
Low-temperature internal friction in nylon-4, K. D. Lawson, J. A. Sauer, and A. E. Woodward—2492(C)
Wooten, F. T.
Prediction of Curie temperatures in ternary Fe–Co–Ni alloys, J. L. Artley, T. C. Pilkington, and F. T. Wooten—972
Worrell, F. T.
Cathode particle vapors in a glow discharge in pulsed diodes, F. T. Worrell and H. A. Pike—3491
Wrigley, C.
Equilibrium charge, field, and potential distributions in semiconductors, J. Lindmayer, C. Wrigley, and K. Schoeni—800
One-carrier space-charge-limited current in solids, J. Lindmayer, J. Reynolds, and C. Wrigley—809
Wulff, J.
Niobium-thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Wyatt, Philip J.
Interdependence of plasma frequency and surface diffusivity from electromagnetic scattering analyses, Philip J. Wyatt—2078
Wysocki, J. J.
Radiation properties of GaAs and Si solar cells, J. J. Wysocki—2915(C)

Yahagi, Kichinosuke
Gamma-ray induced conductivity in polyethylene and Teflon under radiation at high dose rate, Kichinosuke Yahagi and Akibumi Danno—804
Yamaguchi, S.
Fluctuation of the object in electron diffraction, S. Yamaguchi—3536
Yariv, Amnon
Calcium niobate $Ca(NbO_3)_2$—a new laser host crystal, A. A. Ballman, S. P. S. Porto, and A. Yariv—3155
Super radiant narrowing in fluorescence radiation of inverted populations, Amnon Yariv and R. C. C. Leite—3410(C)
Yasumori, I.
Aniostropic behavior in superparamagnetic systems, I. Yasumori, D. Reinen, and P. W. Selwood—3544
Yockey, H. P.
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Yoda, Eiji
Investigation of the oxidation of copper by electron diffraction, Eiji Yoda and Benjamin M. Siegel—1512
Young, Joseph F.
An analysis of *exo*-electron glow curves, Joseph F. Young and David J. Williams—3157
Yu, S. P.
Nonlinear rf behavior of electron beams with velocity distribution. I. General analysis, S. P. Yu and T. G. Mihran—2972
Nonlinear rf behavior of electron beams with velocity distribution. II. Application to rectangular velocity distribution, T. G. Mihran and S. P. Yu—2976

Zachmanidis, P. J.
Nucleation and growth of ferroelectric domains in $BaTiO_3$ at fields from 2 to 450 kV/cm, H. L. Stadler and P. J. Zachmanidis—3256
Zaky, A. A.
Polarization phenomena in electrical tests on hexane, A. A. Zaky and H. House—3194
Zeiger, H. J.
Theory of semiconductor maser of GaAs, A. L. McWhorter, H. J. Zeiger, and Benjamin Lax—235(C)

Zelby, Leon W.
Theory of Čerenkov effect based on Lorentz transformations, Leon W. Zelby—712(E)
Zeldes, P.
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid—669
Zerby, C. D.
Studies of the longitudinal development of electron–photon cascade showers, C. D. Zerby and H. S. Moran—2445
Zessoules, N.
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Zinn, W.
Isotropic Permalloy films, E. Fuch and W. Zinn—2557
Zito, Ralph, Jr.
Rate analysis of multiple-step excitation in mercury vapor, Ralph Zito, Jr.—1535
Zollweg, R. J.
Electron reflection from cesium-coated polycrystalline metals at low primary energy, R. J. Zollweg—2590
Zook, J. D.
Electrical properties of heavily-doped silicon, P. W. Chapman, O. N. Tufte, J. D. Zook, and Donald Long—3292
Zumwalt, L. R.
A new semiempirical equation for gas flow through capillaries, E. Creutz and L. R. Zumwalt—1573(E)

JOURNAL OF APPLIED PHYSICS VOLUME 34, NUMBER 12 DECEMBER 1963

Analytic Subject Index to Volume 34

References with (L) are Letters to the Editor; (C) to Communications; (E) to Errata

Items are listed under the following categories. The Supplement (April 1963) "Eighth Symposium on Magnetism and Magnetic Materials" is separately indexed.

Astrophysics
Atomic and Molecular Physics
Biophysics
Crystal Growth
Crystal Properties and Behavior
Crystal Structure
Defects in Solids: Point Defects
Defects in Solids: Dislocations and Stacking Faults
Dielectrics and Dielectric Properties
Diffraction—X-Ray, Neutron, Electron
Diffusion in Solids
Elasticity and Anelasticity
Electric Discharges
Electrokinetics—Current Electricity
Electromagnetic Waves
Electron and Ion Emission
Electron and Ion Optics and Beams
Electron Microscopy
Electrostatics. Space Charge
Energy Conversion
Fracture
Friction and Wear
Gaseous and Liquid States. Fluid Flow
Geophysics and Space Physics
Lasers and Masers
Lattice Dynamics
Low-Temperature Physics. Superconductivity
Magnetic Behavior
Magnetic Materials
Magnetic Resonances
Mathematics
Nuclear Physics
Optical Properties
Phase Transformations
Photoconductivity and Photovoltaic Effects
Physical Chemistry
Plasmas
Plastic Deformation
Radiation Effects
Semiconducting Devices
Semiconductors: Elemental
Semiconductors: Compound
Spectra and Spectroscopy
Surface Physics. Thin Films
Techniques and Instruments
Thermodynamics and Heat Flow
Thermoelectricity
Various Solid Forms
Vibrations and Acoustics

Acoustics (see Vibrations and Acoustics, Lattice Dynamics)
Astrophysics
On maser rate equations and transient oscillations, C. L. Tang—2935
Atomic and Molecular Physics
Angular-dependent sputtering of copper single crystals, J. M. Fluit, P. K. Rol, and J. Kistemaker—690
Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
Atom ejection in low-energy sputtering of single crystals of bcc metals, G. S. Anderson—659
Calculation of the potential distribution at the surface of an intrinsic semiconductor, Richmond B. McQuistan—3626(C)
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
A comment on perturbation of electron flow by Gordon Kent, R. H. C. Newton—440(C)
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Effects of guarding upon low-energy sputtering yields of flat, single-crystal gold targets, W. C. Kreye—2897
An electrodynamic Foucault pendulum, A. R. Shapiro and W. K. R. Watson—1553
Electron ejection and reflection properties of alkali and noble-gas ions and atoms, D. B. Medved—3142
Electron scattering at small angles by carbon, N. H. Sarkar—2379
Fluctuation of the object in electron diffraction, S. Yamaguchi—3536
The focusing of neutral particle beams by fictitious force fields, Daniel F. Dempsey—3221
Full-plane threshold energies for cathode sputtering of metals with Ar^+ ions, Erich B. Henschke and Samuel E. Derby—2458
Improvement of the ion transmission in a typical mass spectrometer ion source, Robert J. Conzemius and Harry J. Svec—2486(C)

Atomic and Molecular Physics (*continued*)
Influence of alkali-vapor atmospheres on pyrometrically determined temperatures: cesium and potassium. M. Lapp and L. P. Harris—3622
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Long-range channeling effects in irradiated crystals, Christian Lehmann and Gunther Leibfried—2821
A low density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece —3466
Mass analysis of sputtering particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Mobilities of the alkali metal ions in their own vapor, John W. Sheldon—444(C)
Multiple charge exchange of an accelerated positive-ion beam in a neutral gas, P. Parzen—2322
Near-ultraviolet light scattering for the determination of molecular dimensions, W. R. Krigbaum, P. Smith, and F. G. Mark—3218
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weissmann, and D. A. Lowitz—631
Oxygen outgassing caused by electron bombardment of glass, Jack L. Lineweaver—1786
Photography of magnetic domains using the transverse Kerr effect, D. B. Dove—2067
Range and damage effects of tunnel trajectories in a wurtzite structure, J. R. Beller, Jr., and D. G. Besco —2873
Ranges of energetic atoms in solids, O. S. Oen, D. K. Holmes, and Mark T. Robinson—302
Rate analysis of multiple-step excitation in mercury vapor, Ralph Zito, Jr.—1535
Resistance of elastically deformed shallow p–n junctions. II, W. Rindner and I. Braun—1958
Scattering factors and other properties of low-energy electron diffraction, J. J. Lander and J. Morrison—3516
Some causes of resonant frequency shifts in atomic beam machines. I. Shifts due to other frequencies of excitation, Jon H. Shirley—783
Some causes of resonant frequency shifts in atomic beam machines. II. The effect of slow frequency modulation on the Ramsey line shape, Jon H. Shirley—789
Sputtering experiments with 1- to 5-keV Ar^+ ions, A. L. Southern, W. R. Willis, and M. R. Robinson—153
Sputtering ion source for solids, Helmut J. Liebl and Richard F. K. Herzog—2893
Surface ionization of potassium on tungsten, John F. Wendt and Ali Bulent Cambel—176
Thermal velocity effects in axially symmetric solid beams, P. T. Kirstein—3479

Ballistics (see Mathematics)
Biophysics

Combustion (see Physical Chemistry)
Cyrogenic Devices and Applications (see Low-Temperature Physics)
Crystal Growth (see also Surface Physics, Physical Chemistry)
Analysis of thin-film germanium epitaxially deposited onto calcium fluoride, Arnold L. Pundsack—2306
Barrier height studies on metal–semiconductor systems, W. G. Spitzer and C. A. Mead—3061
Co^{60} γ-radiation-induced point defects in Bi_2Te_3, M. J. Smith—2879
Comment on "Formation conditions of thin epitaxial germanium films on single-crystal substrates," by Billy W. Sloope and Calvin O. Tiller, Derek Walton—1827(C)
Constitutional supercooling and facet formation of GaAs, Charlotte Z. LeMay—439(C)
Crystal growth of GaAs from Ga by a traveling solvent method, A. I. Mlavsky and Martin Weinstein—2885
Effect of hydrostatic pressures on the crystallization kinetics of natural rubber, Gordon M. Martin and Leo Mandelkern—2312
Effect of magnetic field on iron whisker growth, Robert J. Bacigalupi—999(C)
Effect of a phase transformation on the vapor phase growth of single-crystal HgS, O. L. Curtis, Jr.— 1573(E)
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Growth and decoration of ZnTe crystals, R. T. Lynch, D. G. Thomas, and R. E. Dietz—706(C)
Growth mechanisms in germanium dendrites: three twin dendrites; experiments on and models from the entire interface, R. G. Seidensticker and D. R. Hamilton— 3113
Growth mechanisms of germanium dendrites: kinetics and the nonisothermal interface, D. R. Hamilton and R. G. Seidensticker—1450
Growth of cadmium oxide crystals, R. H. Fahrig— 234(C)
Growth of ferrous-free cobalt ferrite single crystals, A. Ferretti, W. Kunnmann, and A. Wold—388
Growth of highly perfect fluoride single crystals for optical masers, H. Guggenheim—2482
Growth of manganous oxide whiskers, Thomas E. Dixon and Richard A. Kane—2774
Hollow cadmium sulphide crystals, D. H. Mash and F. Firth—3636(C)
Hollow crystals of hexagonal ZnS, E. J. Soxman—948
Improved techniques for studying the growth of CdS crystals, P. D. Fochs and B. Lunn—1762
Influence of vacuum conditions on epitaxially grown Permalloy films, Alfred Baltz—1575
Infrared spectra of polyethylene crystals, R. G. Brown —2382
Interface formation during thin film deposition, D. M. Mattox and J. E. McDonald—2493(C)
Kinetics of melting and crystallization of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2239
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Metallic scattering centers in $CaWO_4$ laser crystals, J. R. Shappirio, T. R. AuCoin, and J. G. Gualtieri—3643(C)
A method for growing rare-earth single crystals, H. E. Nigh—3324
Migration of a liquid zone through a solid: part I, W. A. Tiller—2757
Migration of a liquid zone through a solid: part II, W. A. Tiller—2763
Morphological stability of a particle growing by diffusion or heat flow, W. W. Mullins and R. F. Sekerka—323
NMR and dilatometric studies of polyethylene recrystallization, A. Peterlin and E. Roeckl—102
On the applicability of minimum rate of entropy production to the solidification of lamellar eutectics, W. A. Tiller—3615
A phenomenological theory of spherulitic crystallization, H. D. Keith and F. J. Padden, Jr.—2409
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered

microstructures, W. K. Liebmann and E. A. Miller —2653
Production of high-purity Li^7F crystals, C. F. Weaver, R. G. Ross, and R. E. Thoma—1827(C)
Resistance of elastically deformed shallow p–n junctions. II, W. Rindner and I. Braun—1958
Role of oxygen in reducing silicon contamination of GaAs during crystal growth, J. F. Woods and N. G. Ainslie —1469
Solidification of lamellar eutectic systems, W. A. Tiller and R. Mrdjenovich—3639(C)
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Studies on the transport and deposition of alpha-aluminum oxide, James V. Kerrigan—3408(C)
Surface features of alkali halide crystal pulled from the melt, J. L. Sampson and K. A. McCarthy—142
Theory of scattering for diffusion-controlled phase separations, Martin Goldstein—1928
Use of induction heating for floating zone melting above 2000°C, Robert W. Johnson—352
Use of induction heating for floating zone melting above 2000°C, Robert W. Johnson—1573(E)
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier—2233

Crystal Properties and Behavior [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]

Absorption contrast effect in bcc metals, S. E. Bronisz and Dana L. Douglass—713
Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Anomalous discharges in ferroelectrics, R. M. Huey and R. McK. Taylor—1557
Applicability of the band model to metal-free phthalocyanine single crystals, George H. Heilmeier, George Warfield, and Sol E. Harrison—2278
Atom ejection in low-energy sputtering of single crystals of bcc metals, G. S. Anderson—659
Attenuation of pure elastic modes in NaCl single crystals, Emmanuel P. Papadakis—1872
Boron-induced microstrains in dislocation-free silicon crystals, G. H. Schwuttke—1662
Calcium niobate $Ca(NbO_3)_2$—a new laser host crystal, A. A. Ballman, S. P. S. Porto, and A. Yariv—3155
Colloid absorption band in CsBr, Richard E. Jensen—3134
Contribution of thermal diffuse scattering to integrated Bragg reflections from perfect crystals, David R. Chipman and Boris W. Batterman—912
Crystal interfaces: part II. Finite overgrowths, J. H. van der Merwe—3420(E)
Decoration of imperfections on cleaved germanium, W. Mehl and M. C. Coutts—2120(C)
Diffusion and solid solubility of gold in single-crystal bismuth telluride, J. D. Keys and H. M. Dutton—1830(C)
Direct determination of the scattering time in bismuth and antimony–bismuth crystals at low temperatures, Leo Esaki and John Heer—234(C)
Effect of illumination on the electrode potential of copper single crystals in water, D. A. Chance and Ken Nobe —1824(C)
Effect of quenching on the electrical resistivity of a β-brass single crystal, M. C. Martin—1835(C)
Effect of temperature on the deformation of KCl–KBr alloys, N. S. Stoloff, D. K. Lezius, and T. L. Johnston —3316
Effects of a guarding upon low-energy sputtering yields of flat, single-crystal gold targets, W. C. Kreye—2897
Elastic constants of single-crystal indium arsenide, D. Gerlich—2915(C)
Elastic constants of synthetic sapphire at 27°C, B. T. Bernstein—169
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Elastic constants of UC, L. J. Graham, N. Nadler, and R. Chang—1572(C)
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Andreatch, Jr.—651
Elastic properties of semiconducting crystals belonging to the diamond, blende, and wurtzite types, L. J. Touchard —2694
Electrical and optical properties of crystalline black phosphorus, Douglas Warschauer—1853
Field-emission microscopy of twins in vapor-grown fcc whiskers, Allan J. Melmed—3326
Hardening of potassium chloride single crystals by quenching and irradiation, Kazou Akimoto and W. A. Sibley —1767
High-temperature steady-state creep rate in single-crystal MgO, R. L. Cummerow—1724
Ice interface morphology and texture developed during freezing, J. D. Harrison and W. A. Tiller—3349
Impurity clustering effects on the anomalous transmission of x-rays in silicon, J. R. Patel and B. W. Batterman 2716
Influence of preferred orientation on the Hall effect in titanium, Louis Roesch and R. H. Willens—2159
Influence of the silicon content on the crystallography of slip in iron–silicon alloy single crystals, S. Libovicky and B. Sestak—2919(C)
Ionic conductivity and time-dependent polarization in NaCl crystals, P. H. Sutter and A. S. Nowick—734
Laue patterns and zone structure of Bi_2Te_3, H. H. Soonpaa —3600
Linewidth and temperature shift of the R lines in ruby, D. E. McCumber and M. D. Sturge—1682
Measurements of the density of GaAs, L. R. Weisberg and J. Blanc—1002(C)
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—1714
A note on domain conversion of $BaTiO_3$, P. H. Fang and W. S. Brower—1516
Optical maser characteristics of rare-earth ions in crystals, L. F. Johnson—897
Order and flow of liquid crystals: the nematic mesophase, R. S. Porter and J. F. Johnson—51
Oxide formation on magnesium single crystals. I. Kinetics of growth, Richard L. Schwoebel—2776
Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784
Photoelectric and thermionic Schottky deviations for tungsten single crystals, D. F. Stafford and A. H. Weber —2667
Pressure dependence of creep in Zn and Cd, K. L. DeVries and P. Gibbs—3119
Properties of Bi_2Te_3–Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li and C. W. Spencer—1398
Quartz resonators; reduction of transient frequency excursion due to temperature change, A. W. Warner and C. D. Stockbridge—437(C)
Relation of equilibrium phase-transition pressure ionic radii, V. S. Stubican and Rustum Roy—1888
Secondary electron emission of pyrolytic graphite cleaved in a high vacuum, N. Rey Whetten—771

Crystal Properties and Behavior (*continued*)
Single- and double-deformation faults in face-centered cubic crystals, B. E. Warren—1973
Single, temperature-dependent stress–strain for the dynamic plastic deformation of annealed face-centered cubic metals, J. F. Bell—134
Solubility and diffusion of zinc in gallium phosphide, Herbert W. Allison—231
Some dielectric and optical properties of KD_2PO_4, T. R. Sliker and S. R. Burlage—1837
Some preliminary results on defects in irradiated UO_2 single crystals as revealed by transmission electron microscopy, H. Blank and S. Amelinckx—2200
Symmetry limitations to polarization of polycrystalline ferroelectrics, R. Daniel Redin, Graham W. Marks, and Charles E. Antoniak—600
Theoretical analysis of plastic deformation in superlattices based on the body-centered cubic structure, M. J. Marcinkowski and R. M. Fisher—2135
Tensile properties of NaCl-BaNr solid solution single crystals, F. T. Wimmer, W. Kobes, and M. E. Fine —1775
Thermal expansion of indium oxide, R. L. Weiher and R. P. Ley—1833(C)
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Tunneling current density as a function of crystallographic polarity, Miriam T. Minamoto and Hilary T. Malafi —1876
Ultrasonic attenuation in single-crystal cadmium, G. Abowitz—1503
Ultrasonic internal conical refraction in rocksalt and calcite, Emmanuel P. Papadakis—2168
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
X-ray irradiation effects on potassium iodide, C. H. Ma and J. Makris—441(C)

Crystal Structure
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42
Crystal habits and morphology of *n*-tetranonacontane (n-$C_{94}H_{190}$), F. Khoury—73
Crystalline and paracrystalline order in high polymers, Rolf Hosemann—25
Crystallographic orientation and oxidation of submicron whiskers of iron, iron–cobalt, and cobalt, F. E. Luborsky, E. F. Koch, and C. R. Morelock—2905
Crystallographic polarity of ZnO crystals, A. N. Mariano and R. E. Hanneman—384
CsCl-type compounds in binary alloys of rare-earth metals with gold and silver, C. C. Chao, H. L. Luo, and P. Duwez—1971
A single-crystal x-ray study of order in β'-AgCd, C. B. Walker and M. Marezio—1443

Defects in Solids: Point Defects
Acceptors in donor-doped GaAs resulting from Li diffusion, C. S. Fuller and K. B. Wolfstirn—1914
Annealing of quenched-in defects in CsCl-type alloys. II, N. Nakanishi, K. M. Thein, and C. M. Wayman—2847
Comments on the article "Diffusion in cobalt-nickel alloys," Richard J. Borg—1562(C)
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611
Effect of prior deformation and recovery on the defect concentration increase during plastic deformation, H. R. Peiffer—298
Formation of point defects during plastic deformation and their subsequent annealing behavior, Howard K. Birnbaum—2175
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—2366
Hardening of potassium chloride by color centers, John S. Nadeau—2248
Hardening of potassium chloride single crystals by quenching and irradiation, Kazou Akimoto and W. A. Sibley —1767
Impurity clustering effects on the anomalous transmission of x-rays in silicon, J. R. Patel and B. W. Batterman —2716
Internal friction in the tantalum–hydrogen system, Per Kofstad and Richard A. Butera—1517
On strain-enhanced diffusion in metals. I. Point defect models, R. W. Balluffi and A. L. Ruoff—1634
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi —2862
Oxide formation on magnesium single crystals. I. Kinetics of growth, Richard L. Schwoebel—2776
Point-defect relaxation in rutile single crystals, R. D. Carnahan and J. O. Brittain—3095
Pulse excitation studies of gain and trapping in photoconductors, Richard H. Bube—3310
Quenched-in defects in CsCl-type alloys. I, C. M. Wayman, K. M. Thein, and N. Nakanishi—2842
Recovery of defects from 78° to 300°K in cadmium elongated at 78°K, H. R. Peiffer and F. R. Stevenson —2804
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin—3492

Defects in Solids: Dislocations and Stacking Faults
Calcium tungstate: II—observation of dislocations, H. J. Levinstein, G. M. Loiacono, and K. Nassau—3603
Cd and Te dislocations in CdTe, Morio Inoue, Iwao Teramoto, and Shigetoshi Takayanagi—404
Characteristics of dislocation stress fields due to elastic anisotropy, Y. T. Chou—429
Crystal habits and morphology of *n*-tetranonacontane (n-$C_{94}H_{190}$), F. Khoury—73
Crystal interfaces. Part I. Semi-infinite crystals, J. H. van der Merwe—117
Crystal interfaces. Part II. Finite overgrowths, J. H. van der Merwe—123
Decoration of dislocations in aluminum oxide, H. E. Bond and K. B. Harvey—440(C)
Development of substructure in polycrystalline aluminum during constant-strain fatigue, J. C. Grosskreutz—372
Dislocation behavior and the yield stress in neutron-irradiated MgO, Paul F. Stablein—1867
Dislocation-impurity interactions and strain aging in AgCl, M. N. Kabler, M. G. Miller, and L. M. Slifkin—1953
Dislocations and chemical etch pits in copper, A. W. Ruff, Jr.—1573(E)
Dislocations and etch figures in high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—591
Dislocations and glide in lead sulfide as a function of deviations from stoichiometry and doping additions. W. M. Franklin and J. B. Wagner, Jr.—3121
Dynamical behavior of dislocations in the primary slip systems of body-centered cubic crystals, L. J. Teutonico —950

Elastic stress field of an angular dislocation, J. L. Hokanson—2337
Electron microscopy of graphite containing boron, G. R. Hennig—237(C)
Etched hillocks in $BaTiO_3$, H. L. Stadler—570
Formation of diamond-shaped prismatic loops in quenched fcc metals, Alf Eikum and G. Thomas—3363
Fracture on (110) planes in LiF, S. Wiederhorn—2125
Grown-in dislocations in calcium tungstate crystals pulled from the melt, A. R. Chaudhuri and L. E. Phaneuf—2162
Growth and decoration of ZnTe crystals, R. T. Lynch, D. G. Thomas, and R. E. Dietz—706(C)
Identification of precipitates on grown-in dislocations in MgO, John D. Venables—293
Influence of the silicon content on the crystallography of slip in iron–silicon alloy single crystals, S. Libovický and B. Šesták—2919(C)
Interacting partial dislocations in GaSe, Z. S. Basinski, D. B. Dove, and E. Mooser—469
Interaction of parallel dislocations in a hexagonal crystal, Y. T. Chou—444(E)
Interferometric study of the microtopography arising out of 90° domain walls in single crystals of barium titanate, V. G. Bhide and N. J. Bapat—181
Macroscopic plastic properties of dislocation-free germanium and other semiconductor crystals. I. Yield behavior, J. R. Patel and A. R. Chaudhuri—2788
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Microstructure of thin single crystals of copper, L. O. Brockway and Robert B. Marcus—921
Migration of a liquid zone through a solid: part I, W. A. Tiller—2757
Observations on work-hardening and fracture of pure polycrystalline zinc in tension, B. Kamel and F. A. Bessa—1881
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi—2862
Photography of magnetic domains using the transverse Kerr effect, D. B. Dove—2067
Pipe diffusion in LiF, R. Tucker, A. Laskar, and R. Thomson—445
Planar stress field of a dislocation in an anisotropic plate, Y. T. Chou—3608
Plastic deformation of germanium at and below room temperature, W. Rindner and R. F. Tramposch—758
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653
Prismatic dislocation loops in cold-worked and annealed MgO crystals, G. W. Groves and A. Kelly—3104
Resistance of elastically deformed shallow *p–n* junctions. II, W. Rindner and I. Braun—1958
Stacking faults in silver–lithium alloys, R. C. Sundahl and J. M. Sivertsen—994(C)
Stacking fault propabilities of some alloys of copper and silver with zinc and cadmium, L. F. Vassamillet and T. B. Massalski—3398
Stacking fault propabilities of some internoble metal alloys, L. F. Vassamillet and T. B. Massalski—3402
Strain-enhanced diffusion in metals. II. Dislocation and grain-boundary short-circuiting models, A. L. Ruoff and R. W. Balluffi—1848
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—3153(E)
Study of dislocation relaxation peaks in gold and copper, S. Okuda—3107
Thermally activated dislocation kink motion in silicon, P. D. Southgate and A. E. Attard—855
Velocities and densities of dislocations in germanium and other semiconductor crystals, A. R. Chaudhuri, J. R. Patel and L. G. Rubin—240(E)
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
X-ray analysis of stacking fault structures in epitaxially grown silicon, G. H. Schwuttke and V. Sils—3127
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389

Dielectrics and Dielectric Properties

Anomalous discharges in ferroelectrics, R. M. Huey and R. McK. Taylor—1557
An anomalous dissipation factor maximum in sapphire, N. M. Tallan and D. P. Detwiler—1650
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42
DC electroluminescence in thin films of ZnS, P. Goldberg and J. W. Nickerson—1601
Dielectric constant of lead titanate zirconate ceramics at high frequency, R. Gerson, J. M. Peterson, and D. R. Rote—3243
Diffusion layer ultrasonic transducer, N. F. Foster—990
Effect of gas flow on the microwave dielectric breakdown of oxygen, John G. Skinner and James J. Brady—975
Effect of hydrostatic pressure on the emission from gallium arsenide lasers, G. E. Fenner—2955
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes—3138(C)
Excitation of the Nd^{3+} fluorescence in $CaWO_4$ by recombination radiation in GaAs, Roger Newman—437(C)
Experiments with Peltier junctions pulsed with high transient currents, M. Idnurm and K. Landecker—1806
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Ferroelectric switching and the Sievert integral, P. H. Fang and Irene A. Stegun—284
Generation of elastic waves by transient surface heating, R. M. White—3559
Interaction between a dielectric (or cold plasma) and a cavity, K. I. Thomassen—1622
Interferometric study of the microtopography arising out of 90° domain walls in single crystals of barium titanate, V. G. Bhide and N. J. Bapat—181
Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207
An investigation of the constant-current characteristics of materials having a positive temperature coefficient of resistance, G. W. Wilson and S. Schomberg—3055
Ionic conductivity and time-dependent polarization in NaCl crystals, P. H. Sutter and A. S. Nowick—734

Dielectrics and Dielectric Properties (*continued*)
Microwave-induced pyroelectric response in ferroelectric TGS, David J. White and H. H. Wieder—2487(C)
A note on domain conversions of $BaTiO_3$, P. H. Fang and W. S. Brower—1516
Nucleation and growth of ferroelectric domains in $BaTiO_3$ at fields from 2 to 450 kV/cm, H. L. Stadler and P. J. Zachmanidis—3256
Observation of an optical difference frequency, Archibald W. Smith and Norman Braslau—2105(C)
Observation of continuous-wave optical harmonics, S. L. McCall and L. W. Davis—2921(C)
Piezoresistance of diffused layers in cubic semiconductors, D. R. Kerr and A. G. Milnes—727
Piezoresistive properties of silicon diffused layers, O. N. Tufte and E. L. Stelzer—313
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Polarization in junction luminescence, H. F. Lockwood—2110
Polarization of dielectrics by nuclear radiation. I. Release of space charge in electron irradiated dielectrics, Preston V. Murphy and Sergio Costa Ribeiro—2061
Polarization phenomena in electrical tests on hexane, A. A. Zaky and H. House—3194
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Schottky field emission through insulating layers, S. R. Pollack—877
Secondary piezoresistivity in oxygen deficient $BaTiO_3$ single crystals, Brenton L. Mattes—682
Some dielectric and optical properties of KD_2PO_4, T. R. Sliker and S. R. Burlage—1837
Symmetry limitations to polarization of polycrystalline ferroelectrics, R. Daniel Redin, Graham W. Marks, and Charles E. Antoniak—600
Theoretical shape of metal-insulator-metal potential barriers, D. V. Geppert—490
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—3154(E)
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Transient and temperature response of a distributed, thermally activated system, J. Ross Macdonald—538
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Ultrasonic amplification and non-Ohmic behavior in CdS and ZnO, J. H. McFee—1548
Velocity modulation of propagation waves, Rolf Landauer—1893
Visual observation of piezoelectric modes, A. J. DeMaria and G. Barnard—2296
Wave propagation in an active dielectric slab, R. N. Hall and D. J. Olechna—2565

Diffraction—X-Ray, Neutron, Electron [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]
Application of the simplified cylindrical distribution function: Orientation in linear polyethylene, M. E. Milberg—722
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42
Boron-induced microstrains in dislocation-free silicon crystals, G. H. Schwuttke—1662
Calculation of crystallite size distributions from x-ray line broadening, Arthur Bienenstock—1391
A comparison of the elastic constants of chromium as determined from diffuse x-ray and ultrasonic techniques, Ali Sumer and J. F. Smith—2691
Contribution of thermal diffuse scattering to integrated Bragg reflections from perfect crystals, David R. Chipman and Boris W. Batterman—912
Crystalline and paracrystalline order in high polymers, Rolf Hosemann—25
Crystallographic orientation and oxidation of submicron whiskers of iron, iron-cobalt, and cobalt, F. E. Luborsky, E. F. Koch, and C. R. Morelock—2905
Crystallographic polarity of ZnO crystals, A. N. Mariano and R. E. Hanneman—384
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611
Development of substructure in polycrystalline aluminum during constant-strain fatigue, J. C. Grosskreutz—372
Diffraction of fast electrons after single plasmon loss, R. D. Heidenreich—964
A diffractometer study of long-range ordering in Ni_3Fe and associated Permalloys, R. G. Treuting and B. W. Batterman—2005
Electron extinction distance in silicon, D. R. Frankl—3514
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Fluctuation of the object in electron diffraction, S. Yamaguchi—3536
Formation and orientation of MgAu alloy thin films, R. R. Verderber—2103(C)
Hollow crystals of hexagonal ZnS, E. J. Soxman—948
Improved thermionic emitter using uniaxially oriented tungsten, Ira Weissman and M. L. Kinter—3187
Impurity clustering effects on the anomalous transmission of x rays in silicon, J. R. Patel and B. W. Batterman—2716
Interpretation of the neutron or x-ray scattering from a liquid-like binary, D. T. Keating—923
Investigation of the oxidation of copper by electron diffraction, Eiji Yoda and Benjamin M. Siegel—1512
$K\alpha$ satellite interference in x-ray diffractometer line profiles, W. Parrish, M. Mack, and J. Taylor—2544
Laue patterns and zone structure of Bi_2Te_3, H. H. Soonpaa—3600
Low-energy electron-diffraction study of the surface reactions of germanium with oxygen and with iodine. II, J. J. Lander and J. Morrison—1411
Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784
Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668
A polarized-neutron investigation of the $MnNi_3$ alloys, A. Paoletti and F. P. Ricci—1571(C)
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
A radiographic study of shock-loaded iron, A. S. Balchan—241
Representation of a function by its line integrals, with some radiological applications, A. M. Cormack—2722
Scattering factors and other properties of low-energy electron diffraction. J. J. Lander and J. Morrison—3536
Single- and double-deformation faults in face-centered cubic crystals, B. E. Warren—1973
A single-crystal x-ray study of order in β'-AgCd, C. B. Walker and M. Marezio—1443
Stress anisotropy in silicon oxide films, J. Priest, H. L. Caswell, and Y. Budo—347

Structures of clean surfaces of germanium and silicon. I, J. J. Lander and J. Morrison—1403
X-ray analysis of stacking fault structures in epitaxially grown silicon, G. H. Schwuttke and V. Sils—3127
X-ray diffraction and diffusion in metal film layered structures, J. Dinklage and R. Frerichs—2633
X-ray diffractometer determination of the thermal expansion coefficient of aluminum near room temperature, H. M. Otte, W. G. Montague, and D. O. Welch—3149(C)
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier—2233

Diffusion in Solids

Anomalous diffusion rate for small penetration distance in copper, D. L. Styris and C. T. Tomizuka—1001(C)
Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Behavior of film conductance during vacuum deposition, Arthur J. Learn and R. Spencer Spriggs—3012
Comments on the article "Diffusion in cobalt-nickel alloys," Richard J. Borg—1562(C)
Diffusion and solid solubility of gold in single-crystal bismuth telluride, J. D. Keys and H. M. Dutton—1830(C)
Dislocation-impurity interactions and strain aging in AgCl, M. N. Kabler, M. G. Miller, and L. M. Slifkin—1953
Drift and diffusion of activation in oxide-coated cathodes, Koji Okumura and Eugene B. Hensley—518
Ion bombardment of silicon in a glow discharge, Hans Strack—2405
Ion drift equilibrium in a semiconductor, Robert R. Bockemuehl and David S. Eddy—1529
A model for boundary diffusion controlled creep in polycrystalline materials, R. L. Coble—1679
Morphological stability of a particle growing by diffusion or heat flow, W. W. Mullins and R. F. Sekerka—323
On strain-enhanced diffusion in metals. I. Point defect models, R. W. Balluffi and A. L. Ruoff—1634
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi—2862
Ratio of interstitial to substitutional zinc in GaAs and its relation to zinc diffusion, K. Weiser—3387
Oxygen diffusion and vaporization rates for liquid and solid germanium dioxide, T. Tokuda and W. D. Kingery—2104(C)
Pipe diffusion in LiF, R. Tucker, A. Laskar, and R. Thomson—445
Self-diffusion in polycrystalline yttrium oxide, Michael F. Berard and D. R. Wilder—2318
Solubility and diffusion of zinc in gallium phosphide, Herbert W. Allison—231
Strain-enhanced diffusion in metals. II. Dislocation and grain-boundary short-circuiting models, A. L. Ruoff and R. W. Balluffi—1848
Surface diffusion from a point source, Paul G. Shewmon—755
Temperature dependence of free hole density in cadmium sulfide, R. R. Bochemuehl—709(C)
X-ray diffraction and diffusion in metal film layered structures, J. Dinklage and R. Frerichs—2633

Diffusion of Fluids (see Gaseous and Liquid States)

Elasticity and Anelasticity

An approximate relation between elastic moduli and thermal expansivities, R. E. Barker, Jr.—107
Characteristics of dislocation stress fields due to elastic anisotropy, Y. T. Chou—429
A comparison of the elastic constants of chromium as determined from diffuse x-ray and ultrasonic techniques, Ali Sumer and J. F. Smith—2691
A correlation of mechanical properties and microstructure of polytetrafluoroethylene at various temperatures, C. J. Speerschneider and C. H. Li—3004
Decay of elastic precursor waves, Paul Harris—3405(C)
Deformation of graphite by thermal cycling, G. M. Jenkins and G. K. Williamson—2837
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Effect of Poisson's ratio on thermal stresses, Herbert Becker—3151(C)
Elastic constants of pyrite, Gene Simmons and Francis Birch—2736
Elastic constants of single-crystal indium arsenide, D. Gerlich—2915(C)
Elastic constants of synthetic sapphire at 27°C, B. T. Bernstein—169
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Andreatch, Jr.—651
Elastic-plastic properties of iron, John W. Taylor and Melvin H. Rice—364
Elastic properties of semiconducting crystals belonging to the diamond, blende, and wurtzite types, L. J. Touchard—2694
Extension of unoriented nylon 66 filaments, Malcolm F. Bender and Malcolm L. Williams—3330
Free vibration experiment in the theory of linear viscoelasticity, Hershel Markovitz—21
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, J. R. Priest—3262
Method of determining dynamic properties of viscoelastic solids employing forced vibration, Tung-Ming Lee—1524
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Use of Langmuir probes to study ion-electron recombination, C. B. Kretschmer and H. L. Peterson—3209
Vibration of sphere for determining the dilational constants of viscoelastic materials, Tung-Ming Lee—2150
Viscoelasticity of polymer solutions at high pressures and ultrasonic frequencies, W. Philippoff—1507

Electric Discharges

Arc cathode emission mechanisms at high currents and pressures, Peter W. Neurath and Thomas W. Gibbs—277
Cathode particle vapors in a glow discharge in pulsed diodes, F. T. Worrell and H. A. Pike—3491
Comments on the Eichenbaum-Hernqvist model of a low-pressure diode, P. Mazur—686
Design and operation of xenon flashtubes, Arden Buck, Roger Erickson, and Frank Barnes—2115(C)
Effect of gas flow on the microwave dielectric breakdown of oxygen, John G. Skinner and James J. Brady—975
Effects of glass contamination and electrode curvature on electrical breakdown in vacuum, E. E. Donaldson and M. Rabinowitz—319
Electron-beam probing of a Penning discharge, D. G. Dow—2395
Electron emission preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—2430
Gradients in mercury-rare-gas discharges, P. J. Walsh, G. W. Manning, and D. A. Larson—2273

Electric Discharges (*continued*)
Investigations on constriction of the positive column using glow discharges of limited duration, R. G. Fowler and L. W. Jones—1401
Local anode heating preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—3141
Low-voltage glow discharge in atmospheric pressure argon with small additions of cesium or potassium, J. C. Ralph—2499(C)
Magnetic field effects on an abnormal truncated glow discharge and their relation to sputtered thin-film growth, Eric Kay—760
Microwave measurements of moving striations in dc glow discharge, K. F. Sodomsky—1860
Modulated Langmuir probe characteristics, F. W. Crawford—1897
Multiple charge exchange of an accelerated positive-ion beam in a neutral gas, P. Parzen—2322
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and A. van der Ziel—2613
One-sided multipactor discharge modes, Edward F. Vance —3238
Paschen curve in nitrogen, H. Craig Miller—3418(C)
Paschen law and shock-excited breakdown in air, A. Cornforth and L. Jacob—2914(C)
Photographic observations of a prebreakdown discharge transition between metal electrodes in vacuum, Dale J. DeGeeter—919
A photomultiplier and electronic study of Geiger counter pulses in air, Harold M. Herreman and Leonard B. Loeb—3160
Pressure dependence of the cataphoretic effect in the rare gases, H. J. Oskam—711(C)
Probe noise in different regions of a gas discharge, D. G. Hanson and A. van der Ziel—1665
Resonance phenomena in a gaseous discharge in a strong magnetic field, Basil Beeken, Robert Goldman, and Ludwig Oster—1430
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Spark conditioning equation for plane electrodes in vacuum, A. Maitland—996(C)
Study of the cathode-fall region in a pulsed glow discharge, M. Nahemow and N. Wainfan—2988
Use of cataphoresis to determine discharge parameters, Walter Muller and Eldred F. Tubbs—969
Use of Langmuir probes to study ion–electron recombination, C. B. Kretschmer and H. L. Peterson—3209

Electrical Circuits and Networks (see Electrokinetics)

Electrical Conductivity (see Electrokinetics)

Electrokinetics—Current Electricity (see also Semiconductors, Photoconductivity)
An anomalous dissipation factor maximum in sapphire, N. M. Tallan and D. P. Detwiler—1650
Anomalous transmission of low-energy electrons through thin metal films, T. W. Hickmott—1569(C)
Applicability of the band model to metal-free phthalocyanine single crystals, George H. Heilmeier, George Warfield, and Sol E. Harrison—2278
Behavior of film conductance during vacuum deposition, Arthur J. Learn and R. Spencer Spriggs—3012
Behavior of gold blocking contacts to CdS at high impressed fields, Richard S. Muller—2401
Bridgman, Krebs, and processed black phosphorus, Douglas M. Warschauer—3630(C)
Co^{60} γ-radiation-induced point defects in Bi_2Te_3, M. J. Smith—2879
Comments on the paper "Volume conductivity of borosilicate glass" by Julius J. Muray, A. E. Owen—705(C)
Conductivity of a medium containing a dense array of perfectly conducting spheres or cylinders or nonconducting cylinders, Joseph B. Keller—991
Current flow in very thin films of Al_2O_3 and BeO, Dietrich Meyerhofer and Stefan A. Ochs—2535
Diffusion of a magnetic field into a conductor, with a moving boundary condition, J. K. Oddson—2097
Direct and indirect tunneling in germanium at different temperatures, K. G. Breitschwerdt—2610
Direct determination of the scattering time in bismuth and antimony–bismuth crystals at low temperatures, Leo Esaki and John Heer—234(C)
A dynamic method for measuring total emissivities and specific heats of electrical conductors, R. A. Pasternak, H. U. D. Wiesendanger, and Björn Bergsnow-Hansen —3416(C)
Effect of insulating-film-thickness nonuniformity on tunnel characteristics, C. K. Chow—2599
Effect of pressure on the electrical resistance of some transition-metal oxides and sulfides, S. Minomura and H. G. Drickamer—3043
Effect of quenching on the electrical resistivity of a β-brass single crystal, M. C. Martin—1835(C)
Electrical and optical properties of crystalline black phosphorus, Douglas Warschauer—1853
Electrical and thermal properties of electron-bombarded silver selenide powders, A. S. Epstein—3641(C)
Electrical conduction in discontinuous thin metal films, Thomas E. Hartman—943
Electrical conductivity of cesium-seeded atmospheric pressure plasmas near thermal equilibrium, Lawson P. Harris—2958
Electrical resistance–strain characteristics of thin evaporated metal films, R. L. Parker and A. Krinsky—2700
Electrical resistivity changes of Al_2O_3 crystals during creep, Roger Chang—1564(C)
Electrical resistivity of scandium, R. V. Colvin and Sigurds Arajs—286
Electrical resistivity of thin single-crystal gold films, K. L. Chopra, L. C. Bobb, and M. H. Francombe—1699
Electrical size effect in aluminum, K. Førsvoll and I. Holwech—2230
Electrolytic conduction in calcium-doped solid cerium oxide, C. J. Kevane, E. L. Holverson, and Robert D. Watson—2083
Electronic conduction in glass, R. C. Nelson—629
Electron reflection from cesium-coated polycrystalline metals at low primary energy, R. J. Zollweg—2590
Energy band parameters of germanium indicated by tunnel diode reverse characteristics, William N. Carr—2467
Experiments on mercury–silicon surface barriers, D. K. Donald—1758
Fluctuations in hot tungsten filaments, James J. Brophy —1890
Galvano-thermomagnetic phenomena. IV. Application to anisotropic adiabatic Nernst generators, T. C. Harman, J. M. Honig, and B. M. Tarmy—2215
Gamma-ray induced conductivity in polyethylene and teflon under radiation at high dose rate, Kichinosuke Yahagi and Akibumi Danno—804
GaP surface-barrier diodes, H. G. White and R. A. Logan—1990
Gas–solid suspensions at high temperatures, S. L. Soo —1689
Generalized formula for the electric tunnel effect between similar electrodes separated by a thin insulating film, John G. Simmons—1793

Identification of precipitates on grown-in dislocations in MgO, John D. Venables—293
Impedance between perfect conductors in a finitely conducting medium with application to composite media, Robert N. Buchal and Joseph B. Keller—3414(C)
Influence of ion reflection probability on potential distribution in low-pressure thermionic converters, P. Mazur —1611
Influence of preferred orientation on the Hall effect in titanium, Louis Roesch and R. H. Willens—2159
An investigation of the constant-current characteristics of materials having a positive temperature coefficient of resistance, G. W. Wilson and S. Schomberg, 3055
Laue patterns and zone structure of Bi_2Te_3, H. H. Soonpaa —3600
Low-voltage current–voltage relationship of tunnel junctions, John G. Simmons—238(C)
Magnetic-field dependence of the acoustoelectric effect, Nobuo Mikoshiba—510
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—1714
Mobilities of the alkali metal ions in their own vapor, John W. Sheldon—444(C)
Negative resistance in thin anodic oxide films, S. Pakswer and K. Pratinidhi—711(C)
On tunneling equations of Holm and Stratton, C. K. Chow —2490(C)
Oscillatory tunneling current through thin-film insulating barriers in a magnetic field, N. Goldberg and S. R. Pollack—3556
Polarization phenomena in electrical tests on hexane, A. A. Zaky and H. House—3194
Potential barrier shape determination in tunnel junctions, John G. Simmons and George J. Unterkofler—1828(C)
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller— 2653
Pulse currents in rutile, E. H. Greener, D. J. Fitzgerald, and W. M. Hirthe—443(C)
Quartz resonators; reduction of transient frequency excursion due to temperature change, A. W. Warner and C. D. Stockbridge—437(C)
Recovery of defects from 78° to 300°K in cadmium elongated at 78°K, H. R. Peiffer and F. R. Stevenson —2804
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki —867
Right-angle bends in thin strip conductors, F. B. Hagedorn and P. M. Hall—128
Secondary piezoresistivity in oxygen deficient $BaTiO_3$ single crystals, Brenton L. Mattes—682
Slow electron transfer through evaporated Au films, H. Kanter—3629(C)
Some properties of Ohmic metal–semiconductor contacts, Ferdinand Nibler—1572(C)
Streaming potentials at very high differential pressures, V. S. Tuman—2014
Surface conduction in group II–VI semi-insulators, Malcolm J. Russ—1831(C)
Tables of the conductivity coefficients in transverse magnetic fields $K(\gamma)$ and $L(\gamma)$. Peter V. Gray—291
Temperature dependence of BeO tunneling structures, C. K. Chow—2918(C)
Temperature dependency of resistance of thin metal films, Charles Feldman—1710
Theoretical curves of tunnel resistivity *vs* voltage, George J. Unterkofler—3143(C)
Theory of galvano-thermomagnetic energy conversion devices. V. Devices constructed from anisotropic materials, T. C. Harman, J. M. Honig, and B. M. Tarmy—2225
Theory of optical frequency mixing in bulk photoconductors, G. J. Lasher and A. H. Nethercot, Jr.—2122(C)
Thermoelectric properties of diphasal systems combining As_2Te_3 and Tl_2Se with Sb_2Te_3, Bi_2Te_3, or Sb_2Se_3, H. L. Uphoff and J. H. Healy—390
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
Tunnel-injection electroluminescence, Albrecht G. Fischer and Herbert I. Moss—2112(C)
Tunneling current density as a function of crystallographic polarity, Miriam T. Minamoto and Hilary T. Malafi —1876

Electromagnetic Waves

Analysis of wave propagation in a magnetoplasma-filled waveguide, Joseph E. Willett—3470
Conductivity of a medium containing a dense array of perfectly conducting spheres or cylinders or nonconducting cylinders, Joseph B. Keller—991
Coupling of electromagnetic and magnetostatic modes in ferrite-loaded cavity resonators, B. A. Auld—1629
Coupling of electromagnetic and quasi-static modes in plasma-loaded waveguides, B. A. Auld and J. C. Eidson —478
Effect of electromagnetic propagation on the magnetostatic modes, W. B. Ribbens—2639
Elastic wave generation by electron bombardment or electromagnetic wave absorption, R. M. White—2123(C)
Electromagnetic shock waves in gyromagnetic media, W. B. Hatfield and F. A. Auld—2941
High-field study of a Hall-effect microwave converter, K. K. N. Chang and R. D. Hughes—777
Interdependence of plasma frequency and surface diffusivity from electromagnetic scattering analyses, Philip J. Wyatt—2078
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059
Microwave frequency multiplication by hot electrons, Karlheinz Seeger—1608
Microwave reflection from small-diameter plasma columns, R. A. Stern—2562
Negative energy fast waves in Brillouin flow beams, G. C. Van Hoven and T. Wessel-Berg—1834(C)
Noise on a drifting Maxwellian beam, Stanley Bloom and Bayram Vural—356
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and A. van der Ziel—2613
Nonlinear rf behavior of electron beams with velocity distribution. I. General analysis, S. P. Yu and T. G. Mihran—2972
Nonlinear rf behavior of electron beams with velocity distribution. II. Application to rectangular velocity distribution, T. G. Mihran and S. P. Yu—2976
Power spectrum of the Barkhausen noise to various magnetic materials, P. Mazzetti and G. Montalenti—3224
Quartz resonators; reduction of transient frequency excursion due to temperature change, A. W. Warner and C. D. Stockbridge—437(C)
Resonances of the Fabry–Perot laser, S. R. Barone—831
Scattering of light by heterogeneous spheres, R. S. Stein, P. R. Wilson, and S. N. Stidham—46
Space-charge-wave decay along a signal-current-excited multivelocity beam, S. Bloom and B. Vural—2007

Electromagnetic Waves (*continued*)
Theory of scattering for diffusion-controlled phase separations, Martin Goldstein—1928
Velocity modulation of propagation waves, Rolf Landauer—1893
Wave propagation in an active dielectric slab, R. N. Hall and D. J. Olechna—2565

Electron and Ion Emission
An analysis of *exo*-electron glow curves, Joseph F. Young and David J. Williams—3157
Angular-dependent sputtering of copper single crystals, J. M. Fluit, P. K. Rol, and J. Kistemaker—690
Anode work function changes caused by sublimation from barium oxide under applied anode potentials, B. J. Hopkins and K. J. Ross—2111(C)
Anomalous transmission of low-energy electrons through thin metal films, T. W. Hickmott—1569(C)
Arc cathode emission mechanisms at high currents and pressures, Peter W. Neurath and Thomas W. Gibbs—277
Behavior of gold blocking contacts to CdS at high impressed fields, Richard S. Muller—2401
Cathode particle vapors in a glow discharge in pulsed diodes, F. T. Worrell and H. A. Pike—3491
Chemical sputtering of tungsten at elevated temperatures, H. F. Winters, D. R. Denison, D. G. Bills, and E. E. Donaldson—1810
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Double barrier in thin-film triodes, R. H. Davis and H. H. Hosack—864
Drift and diffusion of activation in oxide-coated cathodes, Koji Okumura and Eugene B. Hensley—519
Duo-emitter diode, K. G. Hernqvist and J. R. Fendley, Jr.—979
Effect of daughter Rb^{88} on the characteristics of a thermionic diode containing Kr^{88}, R. Forman and J. A. Ghormley—2498(C)
Electron ejection and reflection properties of alkali and noble-gas ions and atoms, D. B. Medved—3142
Electron ejection from tantalum by singly ionized helium, A. B. Laponsky—1568(C)
Electron emission preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—2430
Electronic conduction in glass, R. C. Nelson—629
Experiments on mercury-silicon surface barriers, D. K. Donald—1758
Field emission in rutile diodes, E. O. Wagner and W. W. Happ—259
Fluctuations in hot tungsten filaments, James J. Brophy—1890
Full-plane threshold energies for cathode sputtering of metals with Ar^+ ions, Erich B. Henschke and Samuel E. Derby—2458
Gas-solid suspensions at high temperatures, S. L. Soo—1689
High-field electron emission from gallium arsenide, William R. Savage—732
Improved thermionic emitter using uniaxially oriented tungsten, Ira Weissman and M. L. Kinter—3187
Influence of ion reflection probability on potential distribution in low-pressure thermionic converters, P. Mazur—1611
Investigation of the patch effect in uranium carbide, G. A. Haas and R. E. Thomas—3457
Ion drag pumping. II. Experiment, William F. Pickard—251
Ion-emission requirements for removal of electron space-charge barriers, L. K. Hansen and C. Warner, III—2574
Local anode heating preceding electrical breakdown in vacuum, R. P. Little and W. T. Whitney—3141
Low-voltage current-voltage relationship of tunnel junctions, John G. Simmons—238(C)
Mass analysis of sputtered particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Metal-semiconductor barrier height measurement by the differential capacitance method—one carrier system, Alvin M. Goodman—329
Negative energy fast waves in Brillouin flow beams, G. C. Van Hoven and T. Wessel-Berg—1834(C)
Large differences in surface ionization efficiencies between K and its halides on the contaminated surface of a Pt alloy (8% W) wire, T. R. Touw and J. W. Trischka—3635(C)
One-sided multipactor discharge modes, Edward F. Vance—3238
Photoelectric and thermionic Schottky deviations for tungsten single crystals, D. F. Stafford and A. H. Weber—2667
Retarding field technique for measuring sublimation from dispenser and oxide cathodes, John V. Florio—200
Secondary electron emission of pyrolytic graphite cleaved in a high vacuum, N. Rey Whetten—771
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Secondary electron production from alpha particles emerging from gold, James N. Anno—3495
Schottky field emission through insulating layers, S. R. Pollack—877
Space-charge instabilities in electron diodes. II, William B. Bridges and Charles K. Birdsall—2946
Sputtering yields of single crystals bombarded by 1 to 10 keV Ar^+ ions, G. D. Magnuson and C. E. Carlston—3268
Surface ionization of potassium on tungsten, John F. Wendt and Ali Bulent Cambel—176
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin—3492
Temperature transients in oxide-coated cathodes during pulsed operation, D. A. Campbell and W. G. Shepherd—2473
Theory of space-charge-limited emission in high-pressure gas diodes, R. Forman—2578
Thermionic emission from an exponential patch distribution, Robert E. Stickney—3145(C)
Thermionic emission from dispenser cathodes, H. Ahmed and A. H. W. Beck—997(C)
Thermionic properties of some refractory metal carbides, J. H. Ingold—2033
Thermionic studies of various uranium compounds, G. A. Haas and J. T. Jensen—3451
Work function and thermal desorption in the system thorium-on-rhenium, J. Anderson, W. E. Danforth, and A. J. Williams, III—2260

Electron and Ion Optics and Beams
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—1836(E)
Charged particle orbits in a logarithmic potential, R. H. Hooverman—3505
Comments on the Eichenbaum-Hernqvist model of a low-pressure diode, M. Mazur—686
An electrodynamic Foucault pendulum, A. R. Shapiro and W. K. R. Watson—1553
First-order space-charge correction, D. S. Colburn and G. S. Kino—1568(C)

Improvement of the ion transmission in a typical mass spectrometer ion source, Robert J. Conzemius and Harry J. Svec—2486(C)
Injection of high velocity charged particles into strong magnetic fields, Malcolm A. MacLeod and Ralph W. Waniek—1415
Interaction of a bunched electron beam with a gyrotropic plasma, Basil W. Hakki—531
Investigation of electron trajectories in an axially symmetric magnetic field, R. F. Stetson, B. N. A. Lamborn, and D. L. Lafferty—516
Noise on a drifting Maxwellian beam, Stanley Bloom and Bayram Vural—356
Nonlinear rf behavior of electron beams with velocity distribution. I. General analysis, S. P. Yu and T. G. Mihran —2972
Nonlinear rf behavior of electron beams with velocity distribution. II. Application to rectangular velocity distribution, T. G. Mihran and S. P. Yu—2976
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weissmann, and D. A. Lowitz—631
Numerical determination of ion paths in nonhomogeneous magnetic fields, A. C. Lilly, Jr., T. J. Weismann, and D. A. Lowitz—2124(E)
Paraxial solutions for accelerated and decelerated axially symmetric space-charge flow, R. P. Borghi and D. A. Dunn—692
Polynomial approximation to focal constants of equidiameter two-cylinder lenses, Minoru Morikawa—1657
Thermal velocity effects in axially symmetric solid beams, P. T. Kirstein—3479

Electron Beams (see Electron and Ion Optics, Plasmas)

Electron Microscopy (see also Diffraction)

Absorption contrast effect in bcc metals, S. E. Bronisz and Dana L. Douglass—713
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—211
Charged particle tracks in glass, R. L. Fleischer and P. B. Price—2903
A correlation of mechanical properties and microstructure of polytetrafluoroethylene at various temperatures, C. J. Speerschneider and C. H. Li—3004
Crystal habits and morphology of *n*-tetranonacontane (n-$C_{94}H_{190}$), F. Khoury—73
Development of substructure in polycrystalline aluminum during constant-strain fatigue, J. C. Grosskreutz—372
Direct observation of the oxidation of aluminum single-crystal surfaces, P. E. Doherty and R. S. Davis—619
Effect of cobalt content on the properties of elongated iron particles, Fred E. Luborsky—1706
Electron microscope observation of fission fragment tracks in plastics, A. G. Malmon—3634(C)
Electron microscopy of graphite containing boron, G. R. Hennig—237(C)
Electron microscopy of tin plate alloy layers, G. J. Ebben and G. J. Lawson—1825(C)
Fatigue deformation of magnesium oxide, K. N. Subramanian and Jack Washburn—3394
Ferromagnetic domain structures in cementite, Alfred S. Keh and Charles A. Johnson—2670
Field-emission microscopy of twins in vapor-grown fcc whiskers, Allan J. Melmed—3326
Fission-fragment damage in gold films, K. L. Merkel, L. R. Singer, and R. K. Hart—2800
Growth of manganous oxide whiskers, Thomas E. Dixon and Richard A. Kane—2774
High-field electron emission from gallium arsenide, William R. Savage—732
Influence of vacuum conditions on epitaxially grown Permalloy films, Alfred Baltz—1575
A method for shadowing electron-microscopic specimens with tungsten, Roger G. Hart—434
Microstructure of thin single crystals of copper, L. O. Brockway and Robert B. Marcus—921
Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784
Ripple hysteresis in thin magnetic films, Ernst Feldtkeller —2646
Some preliminary results on defects in irradiated UO_2 single crystals as revealed by transmission electron microscopy, H. Blank and S. Amelinckx—2200
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Surface decoration and domains in very thin magnetic films, M. D. Coutts and H. L. Pinch—2113(C)
Surface lines on soda-lime glass slides, G. R. Stilwell and D. B. Dove—1941
Surface structures resulting from fission-fragment damage in LiF crystals, T. G. Knorr—2767
Theoretical analysis of plastic deformation in superlattices based on the body-centered cubic structure, M. J. Marcinkowski and R. M. Fisher—2135
Tracks in fission-fragment-bombarded lead iodide, L. T. Chadderton, H. M. Montagu-Pollock, and I. McC. Torrens—3090
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
X-ray irradiation effects on potassium iodide, C. H. Ma and J. Makris—441(C)

Electron Paramagnetic Resonance (see Magnetic Resonances)

Electron Tubes (see Techniques and Instruments)

Electrostatics. Space Charge

Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Analytic expressions relating surface charge and potential profiles in the space-charge region in semiconductors, Vin-Jang Lee and Donald R. Mason—2660
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—211
Calculation of axially symmetric electrostatic fields of a system consisting of two coaxial equidiameter cylinders, Minoru Morikawa—3179
A comment on perturbation of electron flow by Gordon Kent, R. H. C. Newton—440(C)
Duo-emitter diode, K. G. Hernqvist and J. R. Fendley, Jr. —979
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
Electron density distribution in indium antimonide, Alfred E. Attard and Leonid V. Azaroff—774
End-effect correction for strip beam ion engines, N. B. Kramer and E. G. Todd—3140(C)
Equilibrium charge, field, and potential distributions in semiconductors, J. Lindmayer, C. Wrigley, and K. Schoeni—800
Gas bubbles in a charged liquid, Otmar M. Stuetzer—958
Generation–recombination noise in an impurity semiconductor, S. Teitler—2751
Ion drift equilibrium in a semiconductor, Robert R. Bockemuehl and David S. Eddy—1529
Ion-emission requirements for removal of electron space-charge barriers, L. K. Hansen and C. Warner, III—2574

Electrostatics. Space Charge *(continued)*
Ionic conductivity and time-dependent polarization in NaCl crystals, P. H. Sutter and A. S. Nowick—734
Migration of a liquid zone through a solid: part II, W. A. Tiller—2763
New type of thermoplastic deformation, P. J. Cressman—2327
Noise picked up by external probes in electrodeless gas discharges, C. H. Huang, E. R. Chenette, and A. van der Ziel—2613
A numerical method for determination of an electric field about a complicated boundary, D. R. Cruise—3477
One-carrier space-charge-limited current in solids, J. Lindmayer, J. Reynolds, and C. Wrigley—809
Photographic observations of a prebreakdown discharge transition between metal electrodes in vacuum, Dale J. DeGeeter—919
Photoinduced discharge characteristics of amorphous selenium plates, H. Tung Li and Paul J. Regensburger—1730
Polarization of dielectrics by nuclear radiation. I. Release of space charge in electron irradiated dielectrics, Preston V. Murphy and Sergio Costa Ribeiro—2061
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Response of photoconducting imaging devices with floating electrodes, H. S. Sommers, Jr.—2923
Space-charge instabilities in electron diodes. II, William B. Bridges and Charles K. Birdsall—2946
Space-charge polarization in photoconducting insulators, E. Harnik and B. Pratt—1804
Space-charge-wave decay along a signal-current-excited multivelocity beam, S. Bloom and B. Vural—2007
Theoretical shape of metal–insulator–metal potential barriers, D. V. Geppert—490
Theory of space-charge-limited emission in high-pressure gas diodes, R. Forman—2578
Weinreich relation in the presence of dc electric and magnetic fields, Harold N. Spector—3628(C)

Energy Conversion
Electron reflection from cesium-coated polycrystalline metals at low primary energy, R. J. Zollweg—2590
End-effect correction for strip beam ion engines, N. B. Kramer and E. G. Todd—3140(C)
End losses in magnetohydrodynamic channels with tensor electrical conductivity and segmented electrodes, George W. Sutton—396
Interaction of a conducting fluid stream with a traveling wave of magnetic field of finite extension, R. N. Sudan—641
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
Operating characteristics of Nernst refrigerators for anisotropic materials, T. C. Harman and J. M. Honig—239(C)
Theory of galvano-thermomagnetic energy conversion devices. III. Generators constructed from anisotropic materials, T. C. Harman and J. M. Honig—189

Experimental Techniques and Instruments (see Techniques and Instruments)

Explosions and Explosives (see Physical Chemistry, Thermodynamics and Heat Flow)

Ferri- and Antiferromagnetism (see Magnetic Resonances)

Ferroelectricity (see Dielectrics and Dielectric Properties)

Ferromagnetic Materials and Ferrites (see Magnetic Materials)

Ferromagnetic Resonance (see Magnetic Resonances)

Fluid Dynamics (see Gaseous and Liquid States)

Fluid Flow, Low Speed (see Gaseous and Liquid States)

Fracture
Cleavage surface energy of {100} magnesium oxide, A. R. C. Westwood and D. L. Goldheim—3336
Determination of fracture surface energies by the cleavage technique, J. P. Berry—62
Effect of gaseous environment on crack propagation, K. U. Snowden—3150(C)
Fracture of Ge and Al_2O_3, O. W. Johnson and P. Gibbs—2852
Fracture on (110) planes in LiF, S. Wiederhorn—2125
Mechanism of spall in Lucite, D. V. Keller and J. G. Trulio—172
Observations on work-hardening and fracture of pure polycrystalline zinc in tension, B. Kamel and F. A. Bessa—1881
Structural properties of cleaved silicon and germanium surfaces, J. J. Lander, G. W. Gobeli, and J. Morrison—2298
Surface energy of {100} potassium chloride, A. R. C. Westwood and T. T. Hitch—3085
Tear marks on cleaved germanium surfaces, D. Haneman and E. N. Pugh—2269

Friction and Wear
Dynamics of a viscoelastic wear particle between sliding surfaces, W. D. May, E. L. Morris, and D. Atack—1920
Friction and wear of single-crystal sapphire sliding on steel, E. J. Duwell—240(E)
Frictional properties of polyvinyl chloride, C. L. Sieglaff and M. E. Kucsma—342
Metal transfer and the wedge forming mechanism, Morton Antler—438(C)
Sliding and wear in ionic crystals, R. P. Steijn—419

Gaseous and Liquid States. Fluid Flow
Compressibility of solids and liquids at high pressures, Melvin A. Cook and Leo A. Rogers—2330
Diffusion of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth and J. A. Barrie—13
Effect of gaseous environment on crack propagation, K. U. Snowden—3150(C)
Effective diffusion coefficient in porous media, Harold L. Weissberg—2636
Flow of a rarefied gas between two parallel plates, C. Cercignani and A. Daneri—3509
Free vibration experiment in the theory of linear viscoelasticity, Hershel Markovitz—21
Gas bubbles in a charged liquid, Otmar M. Stuetzer—958
Gas–solid suspensions at high temperatures, S. L. Soo—1689
Interaction of a conducting fluid stream with a traveling wave of magnetic field of finite extension, R. N. Sudan—641
Interdiffusion of gases in a low-permeability graphite. II. Influence of pressure gradients, R. B. Evans, III, G. M. Watson, and J. Truitt—2020
Interpretation of the neutron or x-ray scattering from a liquid-like binary, D. T. Keating—923
Ion drag pumping. I. Theory, William F. Pickard—246
Ion drag pumping. II. Experiment, William F. Pickard—251
Mobilities of the alkali metal ions in their own vapor, John W. Sheldon—444(C)
Multiple charge exchange of an accelerated positive-ion beam in a neutral gas, P. Parzen—2322
A new semiempirical equation for gas flow through capillaries, E. Creutz and L. R. Zumwalt—1573(E)
Nonhydrodynamic attenuation of shock waves in aluminum, Donald R. Curran—2677

Order and flow of liquid crystals: the cholesteric mesophase, R. S. Porter and J. F. Johnson—55
Order and flow of liquid crystals: the nematic mesophase, R. S. Porter and J. F. Johnson—51
Oxygen diffusion and vaporization rates for liquid and solid germanium dioxide, T. Tokuda and W. D. Kingery—2104(C)
Polarization phenomena in electrical tests on hexane, A. A. Zaky and H. House—3194
Pressure dependence of the cataphoretic effect in the rare gases, H. J. Oskam—711(C)
Reflection and refraction of mechanical waves at solid–liquid boundaries, Walter G. Mayer—909
Reflection and refraction of mechanical waves at solid–liquid boundaries. II, Walter G. Mayer—3287
Self-pinch instabilities in solid sodium, R. M. Henson and M. Eisner—1886
Solution of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—1
Streaming potentials at very high differential pressures, V. S. Tuman—2014
Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261

Gaseous Electron Physics (see Electric Discharges, Plasmas)

Geophysics and Space Physics

A comment on perturbation of electron flow by Gordon Kent, R. H. C. Newton—440(C)

Glasses and Amorphous Solids (see Various Solid Structures)

Lasers and Masers

Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
Calcium niobate $Ca(NbO_3)_2$—a new laser host crystal, A. A. Ballman, S. P. S. Porto, and A. Yariv—3155
A circularly polarized maser oscillator, Toru Ogawa—484
Comment on "Gaseous optical maser with external mirrors," G. D. Boyd, A. G. Fox, H. Kogelnik, Tingye Li, and W. W. Rigrod—3412(C)
Criterion for continuous amplitude oscillations of optical masers, Jerome I. Kaplan—3411(C)
A criterion for exciton binding in dense electron–hole systems—application to line narrowing observed in GaAs, R. S. Casella—1703
Cylindrical GaAs laser diode, K. M. Arnold and Sumner Mayburg—3136(C)
Determination of R_1 linewidths in ruby using a pulsed ruby laser, R. L. Aagard—3631(C)
Diffraction studies with plane-parallel maser interferometer, W. W. Rigrod and A. J. Rustako, Jr.—967
Effect of a small Stokes shift on the operation of three-level masers, Peter J. Warter, Jr.—2966
Effect of hydrostatic pressure on the emission from gallium arsenide lasers, G. E. Fenner—2955
Energy density distribution in a polished cylinder of laser material, W. R. Sooy and M. L. Stitch—1719
Evolution of the giant pulse in a laser, William G. Wagner and Bela A. Lengyel—2040
Excitation of the Nd^{3+} fluorescence in $CaWO_4$ by recombination radiation in GaAs, Roger Newman—437(C)
Faraday effect as a Q-switch for ruby laser, James L. Helfrich—1000(C)
Fluorescence and stimulated emission from trivalent europium in yttrium oxide, N. C. Chang—3500
Gain saturation and output power of optical masers, W. W. Rigrod—2602
Gaseous optical maser with external mirrors, Thomas G. Polanyi and William R. Watson—553
Growth of highly perfect fluoride single crystals for optical masers, H. Guggenheim—2482
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schulz—703(C)
Interference between the infrared beams from opposite ends of a GaAs laser, A. E. Michel and E. J. Walker—2492(C)
Laser-formed apertures for electron beam instruments, J. F. Norton and J. G. McMullen—3640(C)
Laser operation without spikes in a ruby ring, Peter Walsh and G. Kemeny—956
Linewidth and conditions for steady oscillation in single and multiple element lasers, J. A. Fleck, Jr.—2997
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Metallic scattering centers in $CaWO_4$ laser crystals, J. R. Shappirio, T. R. AuCoin, and J. G. Gualtieri—3643(C)
Mode selection properties of segmented rod lasers, Milton Birnbaum and Tom L. Stocker—3414(C)
Observation of an optical difference frequency, Archibald W. Smith and Norman Braslau—2105(C)
Observation of continuous-wave optical harmonics, S. L. McCall and L. W. Davis—2921(C)
Optical maser action in He–Hg rf discharges, R. A. Paananen, C. L. Tang, F. A. Horrigan, and H. Statz—3148(C)
Optical maser characteristics of rare-earth ions in crystals, L. F. Johnson—897
Plasma pinch excitation of a ruby laser, R. A. Brandewie, J. S. Hitt, and J. M. Feldman—3415(C)
Power and efficiency considerations in continuous laser operation, D. R. Frankl—459
A proposal for a dc pumped rare-earth laser, R. L. Bell—1563(C)
Proposal for a two-stage semiconductor laser through tunneling and injection, Shyh Wang—3443
Proposal for beating two optical masers, G. D. Mahan and J. J. Hopfield—1531
Q-switched $CaWO_4:Nd^{3+}$ laser, D. Karlsons and T. Falvey—3407(C)
Quantum efficiency of ruby, Gerald Burns and Marshall I. Nathan—703(C)
Radiation patterns of confocal He–Ne laser, W. R. Watson and Thomas G. Polanyi—708(C)
Reply to comments on "Gaseous optical maser with external mirror," T. G. Polanyi and W. R. Watson—3412(C)
Resonances of the Fabry–Perot lasers, S. R. Barone—831
Spatial distribution of radiation from GaAs lasers, G. E. Fenner and J. D. Kingsley—3204
Spectral characteristics of GaAs lasers operating in "Fabry–Perot" modes, P. P. Sorokin, J. D. Axe, and J. R. Lankard—2553
Spectral output and spiking behavior of solid-state lasers, C. L. Tang, H. Statz, and G. deMars—2289
Steady-state output power of a laser as a function of the single-pass gain, Irwin Tobias—3200
Super radiant narrowing in fluorescence radiation of inverted populations, Amnon Yariv and R. C. C. Leite—3410(C)
Temperature effects in coherent GaAs diodes, W. E. Engeler and M. Garfinkel—2746
Temperature limitations on continuous operation of GaAs lasers, Sumner Mayburg—3417(C)
Theory of laser regeneration switching, Arthur A. Vuylsteke—1615

Lasers and Masers (*continued*)
Theory of pulse propagation in a laser amplifier, Lee M. Frantz and John S. Nodvik—2346
Theory of semiconductor maser of GaAs, A. L. McWhorter, H. J. Zeiger, and Benjamin Lax—235(C)
Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Threshold currents for line narrowing in GaAs junction diodes, Sumner Mayburg—1791
Ultrasonic-diffraction shutters for optical maser oscillators, A. J. DeMaria—2984
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gagosz, and G. Barnard—453

Lattice Dynamics
Attenuation of pure elastic modes in NaCl single crystals, Emmanuel P. Papadakis—1872
Dislocation channeling in neutron-irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)
Elastic constants of calcite, Louis Peselnick and Richard A. Robie—2494(C)
Elastic measurements on magnetic materials, R. T. Denton and E. G. Spencer—1832(C)
Elastic stress field of an angular dislocation, J. L. Hokanson—2337
Elastic wave generation by electron bombardment or electromagnetic wave absorption, R. M. White—2123(C)
Explosive-induced pressures in iron, William G. Soper and Lester A. Potteiger—1817
Generation of elastic waves by transient surface heating, R. M. White—3559
Higher-order spin-wave instability excited by parallel pumping, R. I. Joseph and E. Schlömann—2686
Impedance between perfect conductors in a finitely conducting medium with application to composite media, Robert N. Buchal and Joseph B. Keller—3414(C)
Internal friction in the vanadium–hydrogen system, Richard A. Butera and Per Kofstad—2172
Long-range channeling effects in irradiated crystals, Christian Lehmann and Gunther Leibfried—2821
Low-temperature internal friction in nylon-4, K. D. Lawson, J. A. Sauer, and A. E. Woodward—2492(C)
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653
Pumping effects contributing to the excitation of phonon instabilities in ferromagnetic insulators, B. A. Auld, R. E. Tokheim, and D. K. Winslow—2281
Range and damage effects of tunnel trajectories in a wurtzite structure, J. R. Beller, Jr., and D. G. Besco—2873
A reanalysis of short-range order in Cu_3Au, C. B. Walker and D. T. Keating—2309
Reflection and refraction of mechanical waves at solid–liquid boundaries, Walter G. Mayer—2922(E)
Thermal conductivity measurements of silicon from 680° to 1000°K, Robert G. Morris and Joel J. Martin—2388
Transient growth of the spin-wave population in a strong rf magnetic field applied parallel to the dc field, Ernst Schlömann—1998
Ultrasonically induced switching in (80% Ni–20% Fe) ferromagnetic films, Turner E. Hasty, T. C. Penn, and Norman G. Einspruch—1685

Liquids (see Gaseous and Liquid States)

Low Temperature Physics. Superconductivity
Application of quantized trapped flux in a superconducting memory, D. J. Dumin and J. F. Gibbons—1566(C)
Bubble formation at metal–metal interfaces and its effect on the superconducting characteristics of aluminum–indium laminate films, John L. Miles and P. H. Smith—2109(C)
"Coil simulation" testing of niobium–tin wire samples, C. H. Rosner, M. G. Benz, and D. L. Martin—2108(C)
Diffusion-damped domain-wall motion, James F. Janak—3356
Electrical resistivity of scandium, R. V. Colvin and Sigurds Arajs—286
Electrical size effect in aluminum, K. Førsvoll and I. Holwech—2230
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
Heat transfer to boiling helium, M. D. Reeber—481
High-field superconducting properties of Ti–Mo alloys, R. R. Hake and D. H. Leslie—270
Inductive behavior of superconducting magnets, C. F. Hempstead, Y. B. Kim, and A. R. Strnad—3227
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, and J. R. Priest—3262
Magnetic field stabilization with a superconducting tube, R. D. Dunlap, C. F. Hempstead, and Y. B. Kim—3147(C)
NbZr superconducting critical current dependence on dI/dt, L. Lesensky and P. W. Neurath—710(C)
Niobium–thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Precipitation and superconductivity in lead–tin and lead–cadmium alloys, J. D. Livingston—3028
Properties of superconducting niobium films made by asymmetric ac sputtering, F. Frerichs and C. J. Kircher—3541
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Relating measurements on short superconducting wires to solenoid performance, C. H. Rosner and H. W. Schadler—2107(C)
Right-angle bends in thin strip conductors, F. B. Hagedorn and P. M. Hall—128
Study of the transition of small niobium–zirconium superconducting solenoids to the normal state, Roger W. Boom and Louis D. Roberts—2422
Theory of the phase transition in a cylindrical superconductor, James C. Swihart—851
Upper critical field of Nb–Zr and Nb–Ti alloys, A. El Bindari and M. M. Litvak—2913(C)

Luminescence (see Dielectrics and Dielectric Properties, Optical Properties)

Magnetic Anisotropy (see Magnetic Behavior)

Magnetic Behavior [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]
Angular and magnitude dispersion of the anisotropy in magnetic films, Thomas S. Crowther—580
Calculation of fields, forces, and mutual inductances of current systems by elliptic integrals, Milan Wayne Garrett—2567
Comments on the article "Diffusion in cobalt-nickel alloys," Richard J. Borg—1562
Coupling of electromagnetic and magnetostatic modes in ferrite-loaded cavity resonators, B. A. Auld—1629
Damping spectrum of iron, D. P. Petarra and D. N. Beshers—2739
Diffraction of light by domain structure in ferromagnetic $CrBr_3$, J. F. Dillon, Jr., and J. P. Remeika—637
Diffusion-damped domain-wall motion, James F. Janak—3356
Diffusion of a magnetic field into a conductor, with a moving boundary condition, J. K. Oddson—2097

Effect of magnetic field on iron whisker growth, Robert J. Bacigalupi—999(C)
Effect of magnetic field reversal on the determination of certain thermomagnetic coefficients, John A. Stamper—2919(C)
Elastic measurements on magnetic materials, R. T. Denton and E. G. Spencer—1832(C)
Faraday effect as a Q-switch for ruby laser, James L. Helfrich—1000(C)
Influence of anisotropy dispersion on magnetic properties of Ni–Fe films, Mitchell S. Cohen—1841
Influence of milling upon the magnetic properties of the intermetallic compound MnAlGe, W. A. J. J. Velge and K. J. De Vos—3568
Magnetic properties of lithium-substituted manganese ferrite, T. R. McGuire and F. S. Ferebee—1821
Magnetic properties of the dual oxide system CuO–Fe_2O_3, W. O. Milligan, Y. Tamai, and J. T. Richardson—2093
Magnetization of manganese ferrite, Sidney R. Butler and Wilhelm R. Buessem—1754
Paramagnetism and lattice spacings of some cerium-rich cerium-europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668
Particle size dependence of coercivity and remanence of single-domain particles, E. F. Kneller and F. E. Luborsky—656
A polarized-neutron investigation of the $MnNi_3$ alloy, A. Paoletti and F. P. Ricci—1571(C)
Precipitation and superconductivity in lead–tin and lead–cadmium alloys, J. D. Livingston—3028
Ripple hysteresis in thin magnetic films, Ernst Feldtkeller—2646
Spin-wave instability in hexagonal ferrites with a preferential plane, E. Schlomann, R. I. Joseph, and I. Bady—672
Structure of subdivided Bloch walls, V. G. Bhide and G. K. Shenoy—1778
Switching thresholds of weakly coupled ferromagnetic domains, K. J. Harte and D. O. Smith—442(C)
Tables of the conductivity coefficients in transverse magnetic fields $K(\gamma)$ and $L(\gamma)$, Peter V. Gray—291
Theory of the phase transition in a cylindrical superconductor, James C. Swihart—851
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Upper and lower bounds for the nucleation field in an infinite rectangular ferromagnetic cylinder, Amikam Aharoni—2434
Variation of coercivity of magnetic materials with driving field, G. R. Hoffman, J. A. Turner, and H. K. Lachowicz—2708

Magnetic Devices (see Magnetic Materials)

Magnetic Domain Wall Behavior (see Magnetic Behavior)

Magnetic Materials [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]

Analysis of noise from magnetic storage media, Irving Stein—1976
Anisotropic behavior in superparamagnetic systems, I. Yasumori, D. Reinen, and P. W. Selwood—3544
Application of the Garrett method to calculation of coil geometries for generating homogeneous magnetic fields in superconducting solenoids, H. L. Marshall and H. E. Weaver—3175
Approximation of an ideal dipole with a solenoid, C. T. Benson—3136(C)
Bubble formation at metal–metal interfaces and its effect on the superconducting characteristics of aluminum–indium laminate films, John L. Miles and P. H. Smith—2109(C)
"Coil simulation" testing of niobium–tin wire samples, C. H. Rosner, M. G. Benz, and D. L. Martin—2108(C)
Compositional and angular dependence of the magnetostriction of thin iron–nickel films, E. N. Mitchell, G. I. Lykken, and G. D. Babcock—715
Conditions existing at the onset of oscillistor action, R. D. Larrabee—880
A diffractometer study of long-range ordering in Ni_3Fe and associated Permalloys, R. G. Treuting and B. W. Batterman—2005
Domain patterns in electrodeposited nickel–iron thin films, Seizo Kainuma and Noboru Tsuya—795
Effect of cobalt content on the properties of elongated iron particles, Fred E. Luborsky—1706
Effect of surface polishing on the linewidth and high-power properties of single-crystal spheres of ZnY, Samuel Dixon, Jr.—3441
Effects of tensile stress on the domain structure in grain-oriented 3.25% silicon steel, J. J. Gniewek—3618
Ferromagnetism in V–Fe and Cr–Fe alloys, M. V. Nevitt and A. T. Alred—463
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
High-field superconducting properties of Ti–Mo alloys, R. R. Hake and D. H. Leslie—270
Inductive behavior of superconducting magnets, C. F. Hempstead, Y. B. Kim, and A. R. Strnad—3227
Influence of vacuum conditions on epitaxially grown Permalloy films, Alfred Baltz—1575
Interrelationship of substrate temperature and angle of incidence effects upon anisotropy variations in evaporated nickel–iron thin films, Albert J. Hardwick—818
Isotropic Permalloy films, E. Fuchs and W. Zinn—2557
Magnetic aging of spinodal alloys, John W. Cahn—3581
Magnetic domains in orthoferrites by the Kerr effect, C. A. Fowler, Jr., E. M. Fryer, B. L. Brandt, and R. A. Isaacson—2064
Magnetic field stabilization with a superconducting tube, R. D. Dunlap, C. F. Hempstead, and Y. B. Kim—3147(C)
NbZr superconducting critical current dependence on dI/dt, L. Lesensky and P. W. Neurath—710(C)
A new magnetic-film dispersion measurement, Walter R. Beam and Kie Y. Ahn—1561(C)
Niobium–thorium eutectic alloy as a high-field high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Prediction of Curie temperatures in ternary Fe–Co–Ni alloys, J. L. Artley, T. C. Pilkington, and F. T. Wooten—972
Power spectrum of the Barkhausen noise of various magnetic materials, P. Mazzetti and G. Montalenti—3224
Pumping effects contributing to the excitation of phonon instabilities in ferromagnetic insulators, B. A. Auld, R. E. Tokheim, and D. K. Winslow—2281
Relating measurements on short superconducting wires to solenoid performance, C. H. Rosner and H. W. Schadler—2107(C)
Study of the transition of small niobium–zirconium superconducting solenoids to the normal state, Roger W. Boom and Louis D. Roberts—2422
Sublattice magnetizations in rare-earth garnets, E. L. Boyd, V. L. Moruzzi, and J. S. Smart—3049
Surface decoration and domains in very thin magnetic films, M. D. Coutts and H. L. Pinch—2113(C)
Thermomagnetic figure of merit: bismuth, Rudolf B. Horst—3247
Ultrasonically induced switching in (80% Ni–20% Fe) ferromagnetic films, Turner E. Hasty, T. C. Penn, and Norman G. Einspruch—1685
Upper critical field of Nb–Zr and Nb–Ti alloys, A. El Bindari and M. M. Litvak—2913(C)

Magnetic Resonances [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]
Applications of miniature coil, pulsed-field techniques to studies of magnetic phase transitions, R. B. Flippen—2026
DC detection of ferromagnetic resonance in thin nickel films, W. G. Egan and H. J. J. Juretschke—1477
DC magnetic moment induced by a strong rf magnetic field applied parallel to the dc field, T. Kohane and E. Schlömann—1544
Determination of Néel temperatures in fcc iron, U. Gonser, C. J. Meechan, A. H. Muir, and H. Wiedersich—2373
Dipole resonances of a plasma in a magnetic field, F. W. Crawford, G. S. Kino, and A. B. Cannara—3168
Effect of electromagnetic propagation on the magnetostatic modes, W. B. Ribbens—2639
Ferrimagnetic resonance linewidth in dense polycrystalline ferrites, P. E. Seiden and J. G. Grunberg—1696
Ferromagnetic domain structures in cementite, Alfred S. Keh and Charles A. Johnson—2670
Ferromagnetic resonance and shape-dependent effects, Leon A. Steinert—2106
Generation of microwave elastic vibrations in a disk by ferromagnetic resonance, R. L. Comstock and R. C. LeCraw—3022
Harmonic generation in low-field nuclear induction, Stanley M. Forman—3037
Higher-order spin-wave instability excited by parallel pumping, R. I. Joseph and E. Schlömann—2686
Measurement of ferromagnetic resonance of thin Permalloy films at low bias field, D. T. Ngo—3626(C)
Modulation broadening of NMR and ESR line shapes, G. V. H. Wilson—3277
NMR and dilatometric studies of polyethylene recrystallization, A. Peterlin and E. Roeckl—102
Nuclear magnetic resonance studies of molecular motion in natural rubber, W. P. Slichter and D. D. Davis—98
Nucleation fields of an infinitely long square ferromagnetic prism, William Fuller Brown, Jr.—1004(E)
Observation of the nuclear resonance in ferromagnetic iron to 65 000 atmospheres, J. D. Litster and G. B. Benedek—688
Parametric coupling of the magnetization and strain in a ferrimagnet. I. Parametric excitation of magnetostatic and elastic modes, R. L. Comstock and B. A. Auld—1461
Parametric coupling of the magnetization and strain in a ferrimagnet. II. Parametric excitation of magnetic and elastic plane waves, R. L. Comstock—1465
Resonance linewidth and anisotropy variation in thin films, Thomas D. Rossing—995(C)
Spin-wave instability in hexagonal ferrites with a preferential plane, E. Schlömann, R. I. Joseph, and I. Bady—672
Transient growth of the spin-wave population in a strong rf magnetic field applied parallel to the dc field, Ernst Schlömann—1998
Use of electron paramagnetic resonance for the exploration of radio frequency field patterns in microwave structures, Laurence C. Robinson—1495
Wide-line nuclear magnetic resonance studies of poly(ethylene terephthalate), C. A. Boye and V. W. Goodlett—59
Magnetic Structure (see Magnetic Behavior)
Magnetic Susceptibility (see Magnetic Behavior)
Magnetization (see Magnetic Behavior)
Masers (see Lasers and Masers)
Mass Spectrometry (see Atomic and Molecular Physics)
Mathematics
Analysis of noise from magnetic storage media, Irving Stein—1976
Analysis of wave propagation in a magnetoplasma-filled waveguide, Joseph E. Willett—3470
Analytic expressions relating surface charge and potential profiles in the space-charge region in semiconductors, Vin-Jang Lee and Donald R. Mason—2660
Application of the Garrett method to calculation of coil geometries for generating homogeneous magnetic fields in superconducting solenoids, H. L. Marshall and H. E. Weaver—3175
Application of the simplified cylindrical distribution function: orientation in linear polyethylene, M. E. Milberg—722
Approximate formulas for coaxial two-cylinder lenses, Minoru Morikawa—211
Approximation of an ideal dipole with a solenoid, C. T. Benson—3136(C)
Calculation of axially symmetric electrostatic fields of a system consisting of two co-axial equidiameter cylinders, Minoru Morikawa—3179
Calculation of crystallite size distributions from x-ray line broadening, Arthur Bienenstock—1391
Calculation of fields, forces, and mutual inductances of current systems by elliptic integrals, Milan Wayne Garrett—2567
Charged particle orbits in a logarithmic potential, R. H. Hooverman—3505
Comments on the Eichenbaum-Hernqvist model of a low-pressure diode, P. Mazur—686
A complete E,P,V,T,S thermodynamic description of metals based on the P, u mirror-image approximation, Julius W. Enig—746
Constitutive equations for a plasma-like medium, Jacob Neufeld—2549
Diffusion of a magnet field into a conductor, with a moving boundary condition, J. K. Oddson—2097
Effective diffusion coefficient in porous media, Harold L. Weissberg—2636
An electrodynamic Foucault pendulum, A. R. Shapiro and W. K. R. Watson—1553
Energy density distribution in a polished cylinder of laser material, W. R. Sooy and M. L. Stitch—1719
Equilibrium charge, field, and potential distributions in semiconductors, J. Lindmayer, C. Wrigley, and K. Schoeni—800
Evolution of the giant pulse in a laser, William G. Wagner and Bela A. Lengyel—2040
Ferroelectric switching and the Sievert integral, P. H. Fang and Irene A. Stegun—284
Flow of a rarefied gas between two parallel plates, C. Cercignani and A. Daneri—3509
Free vibration experiment in the theory of linear viscoelasticity, Hershel Markovitz—21
Generation-recombination noise in an impurity semiconductor, S. Teitler—2751
Harmonic generation in low-field nuclear induction, Stanley M. Forman—3037
Injection of high velocity charged particles into strong magnetic fields, Malcolm A. MacLeod and Ralph W. Waniek—1415
Maximum gain for forward- and backward-wave optical maser amplifiers, H. Jacobs, D. A. Holmes, L. Hatkin, and F. A. Brand—2617
Method of determining dynamic properties of viscoelastic solids employing forced vibration, Tung-Ming Lee—1524
Migration of a liquid zone through a solid: part I, W. A. Tiller—2757
Migration of a liquid zone through a solid: part II, W. A. Tiller—2763
Modulation broadening of NMR and ESR line shapes, G. V. H. Wilson—3277
A numerical method for determination of an electric field about a complicated boundary, D. R. Cruise—3477

One-carrier space-charge-limited current in solids, J. Lindmayer, J. Reynolds, and C. Wrigley—809
A particular solution of the linearized Boltzmann equation, Gordon Kent—1426
Penetration by shaped charge jets of nonuniform velocity, G. R. Abrahamson and J. N. Goodier—195
Representation of a function by its line integrals, with some radiological applications, A. M. Cormack—2722
Scattering of plane compressional waves by a spherical obstacle, Yih-Hsing Pao and C. C. Mow—493
Secondary-electron-emission phase-angle distributions in high-frequency multipacting discharges, A. Miller, H. Bartel Williams, and O. Theimer—1673
Some causes of resonant frequency shifts in atomic beam machines. I. Shifts due to other frequencies of excitation, Jon H. Shirley—783
Some integrals occurring in the theory of rubber viscosity, Joseph A. Faucher—237(C)
Tables of the conductivity coefficients in transverse magnetic fields $K(\gamma)$ and $L(\gamma)$, Peter V. Gray—291
Theory of Čerenkov effect based on Lorentz transformations, Leon W. Zelby—712(E)
Theory of pulse propagation in a laser amplifier, Lee M. Frantz and John S. Nodvik—2346
Theory of the phase transition in a cylindrical superconductor, James C. Swihart—851
Transient and temperature response of a distributed, thermally activated system, J. Ross Macdonald—538
Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Triple correlator of photoelectric fluctuations as a spectroscopic tool, Hideya Gamo—875
Upper and lower bounds for the nucleation field in an infinite rectangular ferromagnetic cylinder, Amikam Aharoni—2434

Metallurgical Processes (see Phase Transformations)

Meteorology (see Geophysics)

Molecular Beams (see Atomic and Molecular Physics)

Noise (see Vibrations and Acoustics, Electromagnetic Waves)

Nuclear Magnetic Resonance (see Magnetic Resonances)

Nuclear Physics

Effect of daughter Rb^{85} on the characteristics of a thermionic diode containing Kr^{85}, R. Forman and J. A. Ghormley—2498(C)
New technique for identifying particles observed by a scintillation counter, W. Gersch—823
Representation of a function by its line integrals, with some radiological applications, A. M. Cormack—2722
Resolution study of photographic thermal neutron image detectors, Harold Berger—914
Studies of the longitudinal development of electron-photon cascade showers, C. D. Zerby and H. S. Moran—2445

Optical Properties

Absorption spectrum of germanium and zinc-blende-type materials at energies higher than the fundamental absorption edge, Manuel Cardona and Günther Harbeke—813
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Bridgman, Krebs, and processed black phosphorus, Douglas M. Warschauer—3630(C)
Colloid absorption band in CsBr, Richard E. Jensen—3134
A criterion for exciton binding in dense electron–hole systems—application to line narrowing observed in GaAs, R. C. Casella—1703
DC electroluminescence in thin films of ZnS, P. Goldberg and J. W. Nickerson—1601
Dependence of recombination radiation on current in GaAs diodes, S. Mayburg and J. Black—1521
Diffraction of light by domain structure in ferromagnetic $CrBr_3$, J. F. Dillon, Jr. and J. P. Remeika—637
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Electrical and optical properties of crystalline black phosphorus, Douglas Warschauer—1853
Faulting and electroluminescence in hexagonal ZnS phosphors, T. Peters, J. Singer, V. A. Brophy, and J. L. Birman—2210
Field-effect light modulation in germanium, B. O. Seraphin and D. A. Orton—1743
Fluorescent yield in the phosphor NE-102 for x-rays from 4 to 17 keV, L. Evan Bailey—3008
Injection electroluminescence in gallium antimonide, A. R. Calawa—1660
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
Luminescence of GaAs grown in oxygen, W. J. Turner, G. D. Pettit, and N. G. Ainslie—3275
Metallic scattering centers in $CaWO_4$ laser crystals, J. R. Shappirio, T. R. AuCoin, and J. G. Gualtieri—3643(C)
Near-ultraviolet light scattering for the determination of molecular dimensions, W. R. Krigbaum, P. Smith, and F. G. Mark—3218
Observation of an optical difference frequency, Archibald W. Smith and Norman Braslau—2105(C)
Observation of continuous-wave optical harmonics, S. L. McCall and L. W. Davis—2921(C)
Optical constants of aluminum from 300 to 800 Å, W. R. Hunter—1565(C)
Optical constants of aluminum from 300 to 800 Å, W. R. Hunter—2922(E)
Optical properties of powders. Part I. Optical absorption coefficients and the absolute value of the diffuse reflectance. Part II. Properties of luminescent powders, N. T. Melamed—560
Phonon assignments in GaAs and CdS, William G. Spitzer—792
Polarization in junction luminescence, H. F. Lockwood—2110
Recombination radiation in GaAs, J. Black, H. Lockwood, and S. Mayburg—178
Relection and guiding of light at p–n junctions, A. Ashkin and M. Gershenzon—2116(C)
Reverse-bias-dependence of spectral photoresponse of Si and GaAs shallow p–n junctions near the band edge, Eugene Loh—416
Rhe-optical properties of polymers. III. Dynamic polarized light scattering, D. G. LeGrand and P. F. Erhardt—68
Scattering of light by heterogeneous spheres, R. S. Stein, P. R. Wilson, and S. N. Stidham—46
Some dielectric and optical properties of KD_2PO_4, T. R. Sliker and S. R. Burlage—1837
The theory of Čerenkov effect based on Lorentz transformations, Leon W. Zelby—712(E)
Theory of optical frequency mixing in bulk photoconductors, G. J. Lasher and A. H. Nethercot, Jr.—2122(C)
Theory of scattering for diffusion-controlled phase separations, Martin Goldstein—1928
Threshold currents for line narrowing in GaAs junction diodes, Sumner Mayburg—1791
Visual observation of piezoelectric modes, A. J. DeMaria and G. Barnard—2296

Parametric Amplifiers (see Techniques and Instruments, Electromagnetic Waves)

Phase Transformations [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]

A reanalysis of short-range order in Cu_3Au, C. B. Walker and D. T. Keating—2309

Annealing of quenched-in defects in CsCl-type alloys. II, N. Nakanishi, K. M. Thein, and C. M. Wayman—2847

Concerning an intermediate phase in the Ag–Sb–Te system, R. A. Burmeister and D. A. Stevenson—1833(C)

Effect of a phase transformation on the vapor phase growth of single-crystal HgS, O. L. Curtis, Jr.—1573(E)

Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475

Effect of quenching on the electrical resistivity of a β-brass single crystal, M. C. Martin—1835(C)

Elastic-plastic properties of iron, John W. Taylor and Melvin H. Rice—364

Electron microscopy of tin plate alloy layers, G. J. Ebben and G. J. Lawson—1825(C)

Ferromagnetism in V–Fe and Cr–Fe alloys, M. V. Nevitt and A. T. Alred—463

Flow configurations in colliding plates: explosive bonding, George R. Cowan and Arnold H. Holtzman—928

Influence of milling upon the magnetic properties of the intermetallic compound MnAlGe, W. A. J. J. Velge and K. J. De Vos—3568

Internal friction in the vanadium–hydrogen system, Richard A. Butera and Per Kofstad—2172

Niobium–thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771

Magnetic aging of spinodal alloys, John W. Cahn—3581

Precipitation and superconductivity in lead–tin and lead–cadmium alloys, J. D. Livingston—3028

Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653

Properties of Bi_2Te_3–Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li, and C. W. Spencer—1398

Quenched-in defects in CsCl-type alloys. I, C. M. Wayman, K. M. Thein, and N. Nakanishi—2842

A radiographic study of shock-loaded iron, A. S. Balchan—241

Rayleigh and stochastic scattering of ultrasonic waves in steel, Emmanuel P. Papadakis—265

Stacking fault probabilities of some alloys of copper and silver with zinc and cadmium, L. F. Vassamillet and T. B. Massalski—3398

Stacking fault probabilities of some internoble metal alloys, L. F. Vassamillet and T. B. Massalski—3402

Photoconductivity and Photovoltaic Effects

Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390

Effect of friction on surface trapping on silicon, M. B. Hall—1003(C)

Effect of illumination on the electrode potential of copper single crystals in water, D. A. Chance and Ken Nobe—1824(C)

Electrical and optical properties of crystalline black phosphorus, Douglas Warschauer—1853

GaP surface-barrier diodes, H. G. White and R. A. Logan—1990

Implications of the intensity dependence of photoconductivity in metal-free phthalocyanine crystals, G. H. Heilmeier and S. E. Harrison—2732

Investigation of polarization processes and electric-field distribution in photoconducting insulators, S. Peled, E. Harnik, M. Y. Ben-Sira, and B. Pratt—207

Photoconductive mixing in CdSe single crystals, O. Svelto, P. D. Coleman, and M. DiDomenico, Jr.—3182

Photoconductivity in CdSe, Edward H. Stupp—163

Photoinduced discharge characteristics of amorphous selenium plates, H. Tung Li and Paul J. Regensburger—1730

Photoplastic recording, Joesph Gaynor and Siegfried Aftergut—2102(C)

Pulse excitation studies of gain and trapping in photoconductors, Richard H. Bube—3310

Response of a simple photoconductor to a square light pulse, Roald K. Wangsness—664

Response of photoconducting imaging devices with floating electrodes, H. S. Sommers, Jr.—2923

Space-charge polarization in photoconducting insulators, E. Harnik and B. Pratt—1804

Temperature dependence of free hole density in cadmium sulfide, R. R. Bochemuehl—709(C)

Theory of optical frequency mixing in bulk photoconductors, G. J. Lasher and A. H. Nethercot, Jr.—2122(C)

Tunnel-injection electroluminescence, Albrecht G. Fischer and Herbert I. Moss—2112(C)

Physical Chemistry (see also Crystal Growth, Thermodynamics)

Apparatus for measuring relative roughness factors of inert metals by the adsorption of radioactive iodine, M. K. Testerman and R. D. Hartman—1492

Compressibility of solids and liquids at high pressures, Melvin A. Cook and Leo A. Rogers—2330

Concerning an intermediate phase in the Ag–Sb–Te system, R. A. Burmeister and D. A. Stevenson—1833(C)

Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390

Effect of illumination on the electrode potential of copper single crystals in water, D. A. Chance and Ken Nobe—1824(C)

Effect of pressure on creep in tin, K. L. DeVries, G. S. Baker, and P. Gibbs—2258

Growth mechanisms of germanium dendrites: kinetics and the nonisothermal interface, D. R. Hamilton and R. G. Seidensticker—1450

Interaction betwen oxygen and aluminum in germanium, W. D. Edwards—2497(C)

Investigation of the oxidation of copper by electron diffraction, Eiji Yoda and Benjamin M. Siegel—1512

Kinetics of melting and crystallization of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2239

Low-energy electron-diffraction study of the surface reactions of germanium with oxygen and with iodine. II, J. J. Lander and J. Morrison—1411

Magnetic properties of lithium-substituted manganese ferrite, T. R. McGuire and F. S. Ferebee—1821

Oxide formation on magnesium single crystals. I. Kinetics of growth, Richard L. Schwoebel—2776

Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784

Paramagnetism and lattice spacings of some cerium-rich cerium–europium alloys, Sigurds Arajs, Henry Chessin, R. V. Colvin, and G. R. Dunmyre—1668

Pressure dependence of the creep of lead, K. L. DeVries, G. S. Baker, and P. Gibbs—2254

Relation of equilibrium phase-transition pressure ionic radii, V. S. Stubican and Rustum Roy—1888

Role of oxygen in reducing silicon contamination of GaAs during crystal growth, J. F. Woods and N. G. Ainslie—1469

Solubility of zinc in gallium arsenide, J. O. McCaldin—1748

Theory of flow properties of attapulgite suspension in water. A method for determining the relaxation-time parameter β, A. F. Gabrysh, Henry Eyring, Michie Shimizu, and Jeanette Asay—261
Viscous flow and melt allotropy of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2245
Work function and thermal desorption in the system thorium-on-rhenium, J. Anderson, W. E. Danforth, and A. J. Williams, III—2260

Plasmas

Analysis of wave progagation in a magnetoplasma-filled waveguide, Joseph E. Willett—3470
Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions. A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Beam-generated beam-plasma system, James E. Hopson—2425
The beam-plasma discharge: buildup of oscillations, W. D. Getty and L. D. Smullin—3421
Constitutive equations for a plasma-like medium, Jacob Neufeld—2549
Coupling of electromagnetic and quasi-static modes in plasma loaded waveguides, B. A. Auld and J. C. Eidson—478
Diffraction of fast electrons after single plasmon loss, R. D. Heidenreich—964
Dipole resonances of a plasma in a magnetic field, F. W. Crawford, G. S. Kino, and A. B. Cannara—3168
Electrical conductivity of cesium-seeded atmospheric pressure plasmas near thermal equilibrium, Lawson P. Harris—2958
End losses in magnetohydrodynamic channels with tensor electrical conductivity and segmented electrodes, George W. Sutton—396
High-power low-density induction plasmas, Thomas B. Reed—3146(C)
Interaction between a dielectric (or cold plasma) and a cavity, K. I. Thomassen—1622
Interaction of a bunched electron beam with a gyrotropic plasma, Basil W. Hakki—531
Interaction of a conducting fluid stream with a traveling wave of magnetic field of finite extension, R. N. Sudan—641
Interdependence of plasma frequency and surface diffusivity from electromagnetic scattering analyses, Philip J. Wyatt—2078
A low-density plasma for molecular ion dissociation, W. L. Stirling, H. C. Hoy, O. D. Matlock, and V. J. Meece—3466
Microplasma breakdown in germanium, M. Poleshuk and P. H. Dowling—3069
A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Microwave reflection from small-diameter plasma columns, R. A. Stern—2562
Mutual interaction between microplasmas in silicon p–n junctions, Ingolf Ruge and Günter Keil—3307
Negative energy fast waves in Brillouin flow beams, G. C. Van Hoven and T. Wessel-Berg—1834(C)
New type of two-stream plasma instability, S. Tosima and R. Hirota—2993
A particular solution of the linearized Boltzmann equation, Gordon Kent—1426
Plasma edge in Bi_2Te_3, Robert Sehr and Louis R. Testardi—2754
Plasma pinch excitation of a ruby laser, R. A. Brandewie, J. S. Hitt, and J. M. Feldman—3415(C)
Quasi-one-fluid theory of wave propagation in a fully ionized plasma, Joseph E. Willett—574
Resonance of surface waves on a cylindrical plasma column, Yasuo Akao and Yoshio Ida—2119(C)
Self-pinch instabilities in solid sodium, R. M. Henson and M. Eisner—1886
Some measurements of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2196
Superconducting niobium films by vacuum deposition, Peter Fowler—3538

Plastic Deformation

Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475
Effect of pressure on creep in tin, K. L. DeVries, G. S. Baker, and P. Gibbs—2258
Effect of prior deformation and recovery on the defect concentration increase during plastic deformation, H. R. Peiffer—298
Effect of temperature on the deformation of KCl–KBr alloys, N. S. Stoloff, D. K. Lezius, and T. L. Johnston—3316
Electrical-charge study in sodium chloride during plastic deformation, A. Hikata, C. Elbaum, B. Chick, and R. Truell—2154
Electrical resistivity changes of Al_2O_3 crystals during creep, Roger Chang—1564(C)
Equation of state of 6061-T6 aluminum at low pressures, C. D. Lundergan and Walter Herrmann—2046
Deformation of graphite by thermal cycling, G. M. Jenkins and G. K. Williamson—2837
Dislocation behavior and the yield stress in neutron-irradiated MgO, Paul F. Stablein—1867
Fatigue deformation of magnesium oxide, K. N. Subramanian and Jack Washburn—3394
Formation of point defects during plastic deformation and their subsequent annealing behavior, Howard K. Birnbaum—2175
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—2366
Hardening of potassium chloride by color centers, John S. Nadeau—2248
High-temperature steady-state creep rate in single-crystal MgO, R. L. Cummerow—1724
Influence of the silicon content on the crystallography of slip in iron-silicon alloy single crystals, S. Libovický and B. Šesták—2919(C)
Macroscopic plastic properties of dislocation-free germanium and other semiconductor crystals. I. Yield behavior, J. R. Patel and A. R. Chaudhuri—2788
A model for boundary diffusion controlled creep in polycrystalline materials, R. L. Coble—1679
Niobium–thorium eutectic alloy as a high-field, high-current superconductor, H. E. Cline, R. M. Rose, and J. Wulff—1771
Nonhydrodynamic attenuation of shock waves in aluminum, Donald R. Curran—2677
Observations of deformation bands in amophous polymers, Wells Whitney—3633(C)
On strain-enhanced diffusion in metals. I. Point defect models, R. W. Balluffi and A. L. Ruoff—1634
On strain-enhanced diffusion in metals. III. Interpretation of recent experiments, A. L. Ruoff and R. W. Balluffi—2862
Plastic deformation in magnesium oxide crystals subjected to rolling-contact stresses, M. F. Amateau and J. W. Spretnak—2340

Plastic Deformation *(continued)*
Plastic deformation of germanium at and below room temperature, W. Rindner and R. F. Tramposch—758
Pressure dependence of creep in Zn and Cd, K. L. DeVries and P. Gibbs—3119
Pressure dependence of the creep of lead, K. L. DeVries, G. S. Baker, and P. Gibbs—2254
Prismatic dislocation loops in cold-worked and annealed MgO crystals, G. W. Groves and A. Kelly—3104
Recovery of defects from 78° to 300°K in cadmium elongated at 78°K, H. R. Peiffer and F. R. Stevenson—2804
Single, temperature-dependent stress–strain law for the dynamic plastic deformation of annealed face-centered cubic metals, J. F. Bell—134
Strain-enhanced diffusion in metals. II. Dislocation and grain-boundary short-circuiting models, A. L. Rouff and R. W. Balluffi—1848
Theoretical analysis of plastic deformation in superlattices based on the body-centered cubic structure, M. J. Marcinkowski and R. M. Fisher—2135
Transient and temperature response of a distributed, thermally activated system, J. Ross Macdonald—538
Work-hardening and dislocation arrangement of fcc single crystals. I. Plastic deformation and slip line studies of nickel single crystals, Siegfried Mader, Alfred Seeger, and Christoph Leitz—3368
Work-hardening and dislocation arrangement of fcc single crystals. II. Electron microscope transmission studies of Ni–Co single crystals and relation to work-hardening theory, Siegfried Mader, Alfred Seeger, and Hans-Martin Thieringer—3376
Polymers (see Various Solid Forms)

Radiation Effects
Atom ejection in low energy sputtering of single crystals of bcc metals, G. S. Anderson—659
Attenuation of pure elastic modes in NaCl single crystals, Emmanuel P. Papadakis—1872
Average neutron energy of reactor spectra and its influence on displacement damage, A. D. Kantz—1944
Charged particle tracks in glass, R. L. Fleischer and P. B. Price—2903
Co^{60} γ-radiation-induced point defects in Bi_2Te_3, M. J. Smith—2879
Crystallinity in fused silica induced by fast neutron irradiation, S. Weissmann and K. Nakajima—3152
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611
Defects introduced in neutron-irradiated Esaki diodes, C. B. Pierce and A. D. Kantz—1496
Discrepancy in energy transfer between medium energy noble-gas ions and neutral atoms bombarding metal surfaces, P. Mahadevan, J. K. Layton, A. R. Comeaux, and D. B. Medved—2810
Dislocation behavior and the yield stress in neutron-irradiated MgO, Paul F. Stablein—1867
Dislocation channeling in neutron irradiated molybdenum, B. Master, H. E. Kissinger, J. J. Laidler, and T. K. Bierlein—3637(C)
Distribution of electron-bombardment-induced radiation defects with depth in silicon, H. Flicker and J. J. Loferski—2146
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Effect of penetrating radiation on the persistent internal polarization of carnauba wax electrets, P. V. Murphy, S. Costa Ribeiro, Fernando Milanez, R. J. de Moraes—3138(C)
Effects of a guarding upon low-energy sputtering yields of flat, single-crystal gold targets, W. C. Kreye—2897
Elastic wave generation by electron bombardment or electromagnetic wave absorption, R. M. White—2123(C)
Electrical and thermal properties of electron bombarded silver selenide powers, A. S. Epstein—3641(C)
Electron ejection and reflection properties of alkali and noble-gas ions and atoms, D. B. Medved—3142
Electron ejection from tantalum by singly ionized helium, A. B. Laponsky—1568(C)
Electron extinction distance in silicon, D. R. Frankl—3514
Electron microscope observation of fission fragment tracks in plastics, A. G. Malmon—3634(C)
Fission-fragment damage in gold films, K. L. Merkel, L. R. Singer, and R. K. Hart—2800
Fluorescent yield in the phosphor NE-102 for x-rays from 4 to 17 keV, L. Evan Bailey—3008
Full-plane threshold energies for cathode sputtering of metals with Ar^+ ions, Erich B. Henschke and Samuel E. Derby—2458
Gamma irradiation of silicon. II. Levels in *n*-type float-zone material, E. Sonder annd L. C. Templeton—3296
Gamma-ray induced conductivity in polyethylene and Teflon under radiation at high dose rate, Kichinosuke Yahagi and Akibumi Danno—804
Hardening of KCl by electron and gamma irradiation, W. A. Sibley and E. Sonder—2366
Hardening of potassium chloride single crystals by quenching and irradiation, Kazou Akimoto and W. A. Sibley—1767
In-pile Hall coefficient and conductivity measurements on zone refined, *p*-type silicon, G. C. Bailey and C. M. Williams—1935
Ion-bombardment etching of synthetic fibers. II, Franklin R. Anderson—2371
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
Ion bombardment of silicon in a glow discharge, Hans Strack—2405
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Long-range channeling effects in irradiated crystals, Christian Lehmann and Gunther Leibfried—2821
Mass analysis of sputtered particles, A. J. Smith, L. A. Cambey, and D. J. Marshall—2489
Oxygen outgassing caused by electron bombardment of glass, Jack L. Lineweaver—1786
Photocontrol of growth rate of thin polymer films formed by electron bombardment, Ludwig Mayer—2088
Polarization of dielectrics by nuclear radiation. I. Release of space charge in electron irradiated dielectrics, Preston V. Murphy and Sergio Costa Ribeiro—2061
Properties of superconducting niobium films made by asymmetric ac sputtering, R. Frerichs and C. J. Kircher—3541
Radiation damage and the ferroelectric effect in rochelle salt, H. H. A. Krueger, W. R. Cook, Jr., C. C. Sartain, and H. P. Yockey—218
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590
Radiation-induced cavities and exfoliation, William Primak—3630(C)
Radiation properties of GaAs and Si solar cells, J. J. Wysocki—2915(C)
Range and damage effects of tunnel trajectories in a wurtzite structure, J. R. Beller, Jr., and D. G. Besco—2873

Ranges of energetic atoms in solids, O. S. Oen, D. K. Holmes, and Mark T. Robinson—302
Recombination and mobility of nuclear radiation induced ionization in liquid hydrogen, N. Zessoules, J. Brinkerhoff, and A. Thomas—2010
Representation of a function by its line integrals, with some radiological applications, A. M. Cormack—2722
Rupture of foam by nuclear ionized particles, Ryuhei Kato and Toshihiko Kōno—708(C)
Secondary electron production from alpha particles emerging from gold, James N. Anno—3495
Some preliminary results on defects in irradiated UO_2 single crystals as revealed by transmission electron microscopy, H. Blank and S. Amelinckx—2200
Sputtering experiments with 1- to 5-keV Ar^+ ions, A. L. Southern, W. R. Willis, and M. R. Robinson—153
Sputtering ion source for solids, Helmut J. Liebl and Richard F. K. Herzog—2893
Sputtering yields of single crystals bombarded by 1 to 10 keV Ar^+ ions, G. D. Magnuson and C. E. Carlston—3268
Studies of the longitudinal development of electron-photon cascade showers, C. D. Zerby and H. S. Moran—2445
Surface structures resulting from fission-fragment damage in LiF crystals, T. G. Knorr—2767
Temperature dependence of ejection patterns in Ge sputtering, G. S. Anderson, G. K. Wehner, and H. Olin—3492
Tracks in fission-fragment-bombarded lead iodide, L. T. Chadderton, H. M. Montagu-Pollock, and I. McC. Torrens—3090
X-ray irradiation effects on potassium iodide, C. H. Ma and J. Makris—441(C)

Scattering of Electromagnetic Waves (see Electromagnetic Waves)

Scattering of Particles (see Atomic and Molecular Physics)

Semiconducting Devices

Avalanche effects in silicon p–n junctions. I. Localized photomultiplication studies on microplasmas, R. H. Haitz, A. Goetzberger, R. M. Scarlett, and W. Shockley—1581
Avalanche effects in silicon p–n junctions. II. Structurally perfect junctions, A. Goetzberger, B. McDonald, R. H. Haitz, and R. M. Scarlett—1591
Behavior of gold blocking contacts to CdS at high impressed fields, Richard S. Muller—2401
Breakdown voltage of graded gallium arsenide p–n junctions, H. Kressel and A. Blicher—2495(C)
Co^{60} γ-radiation-induced point defects in Bi_2Te_3, M. J. Smith—2879
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansen, Frederick S. Goulding, and Robert P. Lothrop—1570(C)
Dependence of recombination radiation on current in GaAs diodes, S. Mayburg and J. Black—1521
Distribution of electron-bombardment-induced radiation defects with depth in silicon, H. Flicker and J. J. Loferski—2146
Excitation of the Nd^{3+} fluorescence in $CaWO_4$ by recombination radiation in GaAs, Roger Newman—437(C)
High-field study of a Hall-effect microwave converter, K. K. N. Chang and R. D. Hughes—777
Injection electroluminescence in gallium antimonide, A. R. Calawa—1660
Microwave frequency multiplication by hot electrons, Karlheinz Seeger—1608
Mutual interaction between microplasmas in silicon p–n junctions, Ingolf Ruge and Günter Keil—3307
Piezoresistance of diffused layers in cubic semiconductors, D. R. Kerr and A. G. Milnes—727
Point contact diodes utilizing single-crystal reduced rutile titanium dioxide, Goebel Davis, Jr. and W. W. Grannemann—228
Polarization in junction luminescence, H. F. Lockwood 2110
Preparation of crystalline germanium films on metals, O. A. Weinreich and G. Dermit—225
Proposal for a two-stage semiconductor laser through tunneling and injection, Shyh Wang—3443
Recombination radiation in GaAs, J. Black, H. Lockwood, and S. Mayburg—178
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki—867
Reflection and guiding of light at p–n junctions, A. Ashkin and M. Gershenzon—2116(C)
Reverse-bias-dependence of spectral photoresponse of Si and GaAs shallow p–n junctions near the band edge, Eugene Loh—416
Switch-on transients in p–n junctions, Y. F. Chang—2056
Theory of Nernst generators and refrigerators, M. H. Norwood—594
Theory of semiconductor maser of GaAs, A. L. McWhorter, H. J. Zeiger, and Benjamin Lax—235(C)
Threshold currents for line narrowing in GaAs junction diodes, Sumner Mayburg—1791
Tunnel-injection electroluminescence, Albrecht G. Fischer and Herbert I. Moss—2112(C)
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid—669

Semiconductors: Elemental

Abrupt vs diffused semiconductor junctions, Y. F. Chang and H. W. Thompson, Jr.—3137(C)
Absorption spectrum of germanium and zinc-blende-type materials at energies higher than the fundamental absorption edge, Manuel Cardona and Günther Harbeke—813
Association in melted semiconductors, D. R. Hamilton and R. G. Seidensticker—2697
Average neutron energy of reactor spectra and its influence on displacement damage, A. D. Kantz—1944
Calculation of the potential distribution at the surface of an intrinsic semiconductor, Richmond B. McQuistan—3626(C)
Conditions existing at the onset of oscillistor action, R. D. Larrabee—880
Defects introducted in neutron-irradiated Esaki diodes, C. B. Pierce and A. D. Kantz—1496
Determination of free electron effective mass of n-type silicon, L. E. Howarth and J. F. Gilbert—236(C)
Direct and indirect tunneling in germanium at different temperatures, K. G. Breitschwerdt—2610
Direct observation of charge storage in the surface states of silicon, G. G. Harman, R. L. Raybold, and Owen L. Meyer—380
Effect of friction on surface trapping on silicon, M. B. Hall—1003(C)
Electric-field-enhanced precipitation of Li in Ge, Joseph Blanc and Marvin S. Abrahams—3638(C)
Electrical properties of heavily doped silicon, P. W. Chapman, O. N. Tufte, J. D. Zook, and Donald Long—3292
Energy band parameters of germanium indicated by tunnel diode reverse characteristics, William N. Carr—2467
Field-effect light modulation in germanium, B. O. Seraphin and D. A. Orton—1743

Semiconductors: Elemental *(continued)*
Gamma irradiation of silicon. II. Levels in *n*-type float-zone material, E. Sonder and L. C. Templeton—3296
Generation-recombination noise in an impurity semiconductor, S. Teitler—2751
In-pile Hall coefficient and conductivity measurements on zone refined, *p*-type silicon, G. C. Bailey and C. M. Williams—1935
Interaction between oxygen and aluminum in germanium, W. D. Edwards—2497(C)
Macroscopic plastic properties of dislocation-free germanium and other semiconductor crystals. I. Yield behavior, J. R. Patel and A. R. Chaudhuri—2788
Magnetic-field dependence of the acoustoelectric effect, Nobuo Mikoshiba—510
Microplasma breakdown in germanium, M. Poleshuk and P. H. Dowling—3069
Modulation of carrier surface lifetime and the time constants of surface states in Si, G. C. Alexandrakis and G. C. Dousmanis—3077
A nondestructive measurement of carrier concentration in heavily doped semiconducting materials and its application to thin surface layers, I. Kudman—1826(C)
Piezoresistive properties of silicon diffused layers, O. N. Tufte and E. L. Stelzer—313
Slow surface relaxation of germanium, M. H. Pilkuhn—3303
Some properties of Ohmic metal-semiconductor contacts, Ferdinand Nibler—1572(C)
Source of acceptors in low resistivity vacuum deposited germanium films, E. G. Bylander, J. R. Piedmont, L. D. Shubin, and R. C. Smith—3407(C)
Surface conduction in group II–VI semi-insulators, Malcolm J. Russ—1831(C)
Velocities and densities of dislocations in germanium and other semiconductor crystals, A. R. Chaudhuri, J. R. Patel, and L. G. Rubin—240(E)
Voltage-annealing of radiation damage in tunnel diodes, H. Roth, W. Bernard, P. Zeldes, and A. P. Schmid—669
X-ray investigation of the perfection of silicon, J. R. Carruthers, R. B. Hoffman, and J. D. Ashner—3389

Semiconductors: Compound
Absorption spectrum of germanium and zinc-blende-type materials at energies higher than the fundamental absorption edge, Manuel Cardona and Günther Harbeke—813
Acceptors in donor-doped GaAs resulting from Li diffusion, C. S. Fuller and K. B. Wolfstirn—1914
Association in melted semiconductors, D. R. Hamilton and R. G. Seidensticker—2697
Changes in electron concentration of donor-doped GaAs crystals caused by annealing, C. S. Fuller and K. B. Wolfstirn—2287
A criterion for exciton binding in dense electron–hole systems–application to line narrowing observed in GaAs, R. C. Casella—1703
Crystal growth of GaAs from Ga by a traveling solvent method, A. I. Mlavsky and Martin Weinstein—2885
Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390
Electron density distribution in indium antimonide, Alfred E. Attard and Leonid V. Azaroff—774
Epitaxy of compound semiconductors by flash evaporation, J. L. Richards, P. B. Hart, and L. M. Gallone—3418(C)
Evidence for the existence of overlapping valance and conduction bands in SnTe, D. H. Damon, C. R. Martin, and R. C. Miller—3083
Field emission in rutile diodes, E. O. Wagner and W. W. Happ—259
Growth of cadmium oxide crystals, R. H. Fahrig—234(C)
Interacting partial dislocations in GaSe, Z. S. Basinski, D. B. Dove, and E. Mooser—469
Ion drift equilibrium in a semiconductor, Robert R. Bockemuehl and David S. Eddy—1529
Measurements of the density of GaAs, L. R. Weisberg and J. Blanc—1002(C)
Metal–semiconductor barrier height measurement by the differential capacitance method—one carrier system, Alvin M. Goodman—329
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
New type of two-stream plasma instability, S. Tosima and R. Hirota—2993
Phonon assignments in GaAs and CdS, William G. Spitzer—792
Photoconductive mixing in CdSe single crystals, O. Svelto, P. D. Coleman, and M. DiDomenico, Jr.—3182
Plasma edge in Bi_2Te_3, Robert Sehr and Louis R. Testardi—2754
A proposal for a dc pumped rare-earth laser, R. L. Bell—1563(C)
Proposal for beating two optical masers, G. D. Mahan and J. J. Hopfield—1531
Radiation effects in GaAs, L. W. Aukerman, P. W. Davis, R. D. Graft, and T. S. Shilliday—3590
Ratio of interstitial to substitutional zinc in GaAs and its relation to zinc diffusion, K. Weiser—3387
Solubility of zinc in gallium arsenide, J. O. McCaldin—1748
Temperature dependence of free hole density in cadmium sulfide, R. R. Bochemuehl—709(C)
Temperature effects in coherent GaAs diodes, W. E. Engeler and M. Garfinkel—2746
Ultrasonic amplification and non-Ohmic behavior in CdS and ZnO, J. H. McFee—1548

Shock Waves (see Thermodynamics and Heat Flow)
Space Charge (see Electrostatics)
Space Physics (see Geophysics and Space Physics)
Spectra and Spectroscopy
Approximate electromagnetic transition probabilities and relative electron excitation cross sections for rare-gas masers, H. Statz, C. L. Tang, and G. F. Koster—2625
Electron scattering at small angles by carbon, N. H. Sarkar—2379
Fluorescence and stimulated emission from trivalent europium in yttrium oxide, N. C. Chang—3500
Identification of lasing energy levels by spectroscopic techniques, E. J. Blau, B. F. Hochheimer, J. T. Massey, and A. G. Schulz—703(C)
Infrared spectra of polyethylene crystals, R. G. Brown—2382
Linewidth and temperature shift of the *R* lines in ruby, D. E. McCumber and M. D. Sturge—1682
Optical maser characteristics of rare-earth ions in crystals, L. F. Johnson—897
Rate analysis of multiple-step excitation in mercury vapor, Ralph Zito, Jr.—1535
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500
Spectral characteristics of GaAs lasers operating in "Fabry–Perot" modes, P. P. Sorokin, J. D. Axe, and J. R. Lankard—2553
Spectral output and spiking behavior of solid-state lasers, C. L. Tang, H. Statz, and G. deMars—2289
Super radiant narrowing in fluorescence radiation of inverted populations, Amnon Yariv and R. C. C. Leite—3410(C)

Transmission of monochromatic radiation in a two-level material, Richard Bellman, George Birnbaum, and William G. Wagner—780
Triple correlator of photoelectric fluctuations as a spectroscopic tool, Hideya Gamo—875
Unresolved fine structure of the nitric oxide γ O–O band for the determination of temperature, David Levine—939

Sputtering (see Electron and Ion Emission, Radiation Effects)

Superconductivity, Superconductors (see Low-Temperature Physics)

Surface Physics. Thin Films [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]

Ag ion transport and deposition in quartz, H. B. Vanfleet, G. S. Baker, and P. Gibbs—891
Analysis of thin-film germanium epitaxially deposited onto calcium fluoride, Arnold L. Pundsack—2306
Angular and magnitude dispersion of the anisotropy in magnetic films, Thomas S. Crowther—580
Anomalous transmission of low-energy electrons through thin metal films, T. W. Hickmott—1569(C)
Apparatus for measuring relative roughness factors of inert metals by the adsorption of radioactive iodine, M. K. Testerman and R. D. Hartman—1492
Behavior of film conductance during vacuum deposition, Arthur J. Learn and R. Spencer Spriggs—3012
Calcium tungstate. II. Observation of dislocations, H. J. Levinstein, G. M. Loiacono, and K. Nassau—3603
Cleavage surface energy of {100} magnesium oxide, A. R. C. Westwood and D. L. Goldheim—3336
Comment on "Formation conditions of thin epitaxial germanium films on single-crystal substrates," by Billy W. Sloope and Calvin O. Tiller, Derek Walton—1827(C)
Compositional and angular dependence of the magnetostriction of thin iron–nickel films, E. N. Mitchell, G. I. Lykken, and G. D. Babcock—715
Crystal interfaces. Part I. Semi-infinite crystals, J. H. van der Merwe—117
Crystal interfaces. Part II. Finite overgrowths, J. H. van der Merwe—123
Crystal interfaces. Part II. Finite overgrowths, J. H. van der Merwe—3420(E)
Crystallinity and electronic properties of evaporated CdS films, J. Dresner and F. V. Shallcross—2390
Crystallographic polarity of ZnO crystals, A. N. Mariano and R. E. Hanneman—384
Current flow in very thin films of Al_2O_3 and BeO, Dietrich Meyerhofer and Stefan A. Ochs—2535
DC electroluminescence in thin films of ZnS, P. Goldberg and J. W. Nickerson—1601
Decoration of dislocations in aluminum oxide, H. E. Bond and K. B. Harvey—440(C)
Decoration of imperfections on cleaved germanium, W. Mehl and M. C. Coutts—2120(C)
Determination of fracture surface energies by the cleavage technique, J. P. Berry—62
Direct observation of charge storage in the surface states of silicon, G. G. Harman, R. L. Raybold, and Owen L. Meyer—380
Direct observation of the oxidation of aluminum single-crystal surfaces, P. E. Doherty and R. S. Davis—619
Dislocations and chemical etch pits in copper, A. W. Ruff, Jr.—1573(E)
Dislocations and etch figures in high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—591
Domain patterns in electrodeposited nickel-iron thin films, Seizo Kainuma and Noboru Tsuya—795
Double barrier in thin-film triodes, R. H. Davis and H. H. Hosack—864
Effect of friction on surface trapping on silicon, M. B. Hall—1003(C)
Effect of surface polishing on the linewidth and high-power properties of single-crystal spheres of ZnY, Samuel Dixon, Jr.—3441
Effects of glass contamination and electrode curvature on electrical breakdown in vacuum, E. E. Donaldson and M. Rabinowitz—319
Electrical conduction in discontinuous thin metal films, Thomas E. Hartman—943
Electrical resistance–strain characteristics of thin evaporated metal films, R. L. Parker and A. Krinsky—2700
Electrical resistivity of thin single-crystal gold films, K. L. Chopra, L. C. Bobb, and M. H. Francombe—1699
Epitaxial grown of germanium using water vapor, R. F. Lever and F. Jona—3139(C)
Epitaxy of compound semiconductors by flash evaporation, J. L. Richards, P. B. Hart, and L. M. Gallone—3418(C)
Etched hillocks in $BaTiO_3$, H. L. Stadler—570
Etching of high purity zinc, R. C. Brandt, K. H. Adams, and T. Vreeland, Jr.—587
Fatigue deformation of magnesium oxide, K. N. Subramanian and Jack Washburn—3394
Fission-fragment damage in gold films, K. L. Merkel, L. R. Singer, and R. K. Hart—2800
Formation and orientation of MgAu alloy thin films, R. R. Verderber—2103(C)
Fracture on (110) planes in LiF, S. Wiederhorn—2125
Grown-in dislocations in calcium tungstate crystals pulled from the melt, A. R. Chaudhuri and L. E. Phaneuf—2162
Hard superconducting films from exploding wires, M. Garbuny, M. Gottlieb, and J. J. Conroy—3642(C)
Hillocks on sputtered Ge surfaces, D. Haneman and M. F. Chung—2488(C)
Ice interface morphology and texture developed during freezing, J. D. Harrison and W. A. Tiller—3349
Influence of anisotropy dispersion on magnetic properties of Ni–Fe films, Mitchell S. Cohen—1841
Influence of vacuum conditions on epitaxially grown Permalloy films, Alfred Baltz—1575
Interface formation during thin film deposition, D. M. Mattox and J. E. McDonald—2493(C)
Interrelationship of substrate temperature and angle of incidence effects upon anisotropy variations in evaporated nickel–iron thin films, Albert J. Hardwick—818
Ion bombardment of silicon, W. Primak, Y. Dayal, and E. Edwards—827
Ion bombardment of single crystals of aluminum, R. L. Cunningham, K. V. Gow, and Joyce Ng-Yelim—984
Isotropic Permalloy films, E. Fuch and W. Zinn—2557
Low-energy electron-diffraction study of the surface reactions of germanium with oxygen and with iodine. II, J. J. Lander and J. Morrison—1411
Low-temperature properties of evaporated lead films, H. L. Caswell, Y. Budo, J. R. Priest—3262
A method for shadowing electron-microscopic specimens with tungsten, Roger G. Hart—434
Microstructure of thin single crystals of copper, L. O. Brockway and Robert B. Marcus—921
Negative resistance in thin anodic oxide films, S. Pakswer and K. Pratinidhi—711(C)
A nondestructive measurement of carrier concentration in heavily doped semiconducting materials and its application to thin surface layers, I. Kudman—1826(C)
Oscillatory tunneling current through thin film insulating barriers in a magnetic field, N. Goldberg and S. R. Pollack—3556
Oxide formation on magnesium single crystals. I. Kinetics of growth, Richard L. Schwoebel—2776

Surface Physics. Thin Films *(continued)*
Oxide formation on magnesium single crystals. II. Structure and orientation, Richard L. Schwoebel—2784
Oxygen outgassing caused by electron bombardment of glass, Jack L. Lineweaver—1786
Photocontrol of growth rate of thin polymer films formed by electron bombardment, Ludwig Mayer—2088
Plastic deformation of germanium at and below room temperature, W. Rindner and R. F. Tramposch—758
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Preparation of crystalline germanium films on metals, O. A. Weinreich and G. Dermit—225
Properties of superconducting niobium films made by asymmetric ac sputtering, R. Frerichs and C. J. Kircher —3541
Radiation-induced cavities and exfoliation, William Primak—3630(C)
Rectifying action and the electromotive forces of the films of Ta_2O_5 and SiO_2 at high temperatures, Yoshioki Ishikawa, Yozo Sasaki, Yasuo Seki, and Shuichi Inowaki —867
Relation of rate and duration of evaporation to background pressure for the deposition of thin films in vacuum, Helmut Schwart—2053
Resonance linewidth and anisotropy variation in thin films, Thomas D. Rossing—995(C)
Ripple hysteresis in thin magnetic films, Ernst Feldtkeller—2646
Slow surface relaxation of germanium, M. H. Pilkuhn —3303
Stress anisotropy in silicon oxide films, J. Priest, H. L. Caswell, and Y. Budo—347
Structural properties of cleaved silicon and germanium surfaces, J. J. Lander, G. W. Gobeli, and J. Morrison —2298
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—406
Structure and origin of stacking faults in epitaxial silicon, R. H. Finch, H. J. Queisser, G. Thomas, and J. Washburn—3153(E)
Structure defects in pyrolytic silicon epitaxial films, D. P. Miller, S. B. Watelski, and C. R. Moore—2813
Structures of clean surfaces of germanium and silicon. I, J. J. Lander and J. Morrison—1403
Study of the transition of small niobium–zirconium superconducting solenoids to the normal state, Roger W. Boom and Louis D. Roberts—2422
Surface decoration and domains in very thin magnetic films, M. D. Coutts and H. L. Pinch—2113(C)
Surface diffusion from a point source, Paul G. Shewmon —755
Surface energy of {100} potassium chloride, A. R. C. Westwood and T. T. Hitch—3085
Surface features of alkali halide crystal pulled from the melt, J. L. Sampson and K. A. McCarthy—142
Surface lines on soda-lime glass slides, G. R. Stilwell and D. B. Dove—1941
Surface structures resulting from fission-fragment damage in LiF crystals, T. G. Knorr—2767
Switching thresholds of weakly coupled ferromagnetic domains, K. J. Harte and D. O. Smith—442(C)
Tear marks on cleaved germanium surfaces, D. Haneman and E. N. Pugh—2269
Temperature dependency of resistance of thin metal films, Charles Feldman—1710
Total emittance of rhenium, Gordon B. Gaines and Chester T. Sims—2922(C)
X-ray analysis of stacking fault structures in epitaxially grown silicon, G. H. Schwuttke and V. Sils—3127
X-ray studies of epitaxial copper electrocrystallization, P. E. Lighty, D. Shanefield, S. Weissmann, and A. Shrier—2233

Techniques and Instruments [see also index in J. Appl. Phys. Suppl. 34, No. 4 (April 1963)]
Air cavity explosive charge for accelerating discrete particles, R. F. Rolsten and J. N. Wellnitz—2910
Apparatus for measuring relative roughness factors of inert metals by the adsorption of radioactive iodine, M. K. Testerman and R. D. Hartman—1492
Application of quantized trapped flux in a superconducting memory, D. J. Dumin and J. F. Gibbons—1566(C)
Applications of miniature coil, pulsed-field techniques to studies of magnetic phase transitions, R. B. Flippen— 2026
Approximation of an ideal dipole with a solenoid, C. T. Benson—3136(C)
Compensated-surface oxide-passivated silicon junction radiation detectors, William L. Hansel, Frederick S. Goulding, and Robert P. Lothrop—1570(C)
Conditions existing at the onset of oscillator action, R. D. Larrabee—880
DC detection of ferromagnetic resonance in thin nickel films, W. G. Egan and H. J. J. Juretschke—1477
Decoration of dislocations in aluminum oxide, H. E. Bond and K. B. Harvey—440(C)
Design and operation of xenon flashtubes, Arden Buck, Roger Erickson, and Frank Barnes—2115(C)
Diffusion layer ultrasonic transducer, N. F. Foster—990
Double barrier in thin-film triodes, R. H. Davis and H. H. Hosack—864
Duo-emitter diode, K. G. Hernqvist and J. R. Fendley, Jr. —979
Effects of glass contamination and electrode curvature on electrical breakdown in vacuum, E. E. Donaldson and M. Rabinowitz—319
Error in Hall cell angle measurement due to magnetic edge effects, E. Mark Gold—1424
Faraday effect as a Q-switch for ruby laser, James L. Helfrich—1000(C)
Generation of microwave elastic vibrations in a disk by ferromagnetic resonance, R. L. Comstock and R. C. LeCraw—3022
Heat-transfer intensity from induction plasma flames and oxy-hydrogen flames, Thomas B. Reed—2266
Heat-wave methods for the measurement of thermal diffusivity, M. Cutler and G. T. Cheney—1902
High-power low-density induction plasmas, Thomas B. Reed—3146(C)
Hollow cadmium sulphide crystals, D. H. Mash and F. Firth—3636(C)
Hypervelocity impact of radioactive projectiles into stainless steel and aluminum, R. F. Rolsten and R. A. Schmitt —3010
Ion drag pumping. I. Theory, William F. Pickard—246
Ion drag pumping. II. Experiment, William F. Pickard —251
Influence of alkali-vapor atmospheres on pyrometrically determined temperatures: cesium and potassium, M. Lapp and L. P. Harris—3622
Laser-formed apertures for electron beam instruments, J. F. Norton and J. G. McMullen—3640(C)
Metal–semiconductor barrier height measurement by the differential capacitance method—one carrier system, Alvin M. Goodman—329

A microwave method for the study of steady and fluctuating plasma number densities, F. W. Crawford, G. S. Kino, S. A. Self, and J. Spalter—2186
Modulation broadening of NMR and ESR line shapes, G. V. H. Wilson—3277
A new magnetic-film dispersion measurement, Walter R. Beam and Kie Y. Ahn—1561(C)
New technique for identifying particles observed by a scintillation counter, W. Gersch—823
Penetration by shaped charge jets of nonuniform velocity, G. R. Abrahamson and J. N. Goodier—195
Photography of magnetic domains using the transverse Kerr effect, D. B. Dove—2067
Photoplastic recording, Joseph Gaynor and Siegfried Aftergut—2102(C)
Q-switched $CaWO_4:Nd^{3+}$ laser, D. Karlsons and T. Falvey—3407(C)
Rate analysis of multiple-step excitation in mercury vapor, Ralph Zito, Jr.—1535
Resolution study of photographic thermal neutron image detectors, Harold Berger—914
Response of photoconducting imaging devices with floating electrodes, H. S. Sommers, Jr.—2923
Right-angle bends in thin strip conductors, F. B. Hagedorn and P. M. Hall—128
Some causes of resonant frequency shifts in atomic beam machines. I. Shifts due to other frequencies of excitation, Jon H. Shirley—783
Some causes of resonant frequency shifts in atomic beam machines. II. The effect of slow frequency modulation on the Ramsey line shape, Jon H. Shirley—789
Spectral characteristics of exploding wires for optical maser excitation, M. J. Stevenson, W. Reuter, N. Braslau, P. P. Sorokin, and A. J. Landon—500
Superconducting niobium films by vacuum deposition, Peter Fowler—3538
Temperature and finite pulse-time effects in the flash method for measuring thermal diffusivity, J. A. Cape and G. W. Lehman—1909
Thermal diffusivity by electron bombardment heating, M. Cerceo and H. M. Childers—1445
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gogosz, and G. Barnard—453
Use of electron paramagnetic resonance for the exploration of radio frequency field patterns in microwave structures, Laurence C. Robinson—1495
Use of induction heating for floating zone melting above 2000°C, Robert W. Johnson—1573(E)

Thermal Conductivity and Diffusivity (see Thermodynamics)

Thermodynamics and Heat Flow

Analysis of wave propagation in a magnetoplasma-filled waveguide, Joseph E. Willett—3470
Anode work function changes caused by sublimation from barium oxide under applied anode potentials, B. J. Hopkins and K. J. Ross—2111(C)
An approximate relation between elastic moduli and thermal expansivities, R. E. Barker, Jr.—107
Association in melted semiconductors, D. R. Hamilton and R. G. Seidensticker—2697
A complete E,P,V,T,S thermodynamic description of metals based on the P, u mirror-image approximation, Julius W. Enig—746
Compressibility of solids and liquids at high pressures, Melvin A. Cook and Leo A. Rogers—2330
Deformation of graphite by thermal cycling, G. M. Jenkins and G. K. Williamson—2837
A dynamic method for measuring total emissivities and specific heats of electrical conductors, R. A. Pasternak, H. U. D. Wiesendanger, and Björn Bergsnow-Hansen—3416(C)
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Effect of magnetic field reversal on the determination of certain thermomagnetic coefficients, John A. Stamper—2919(C)
Effect of Poisson's ratio on thermal stresses, Herbert Becker—3151(C)
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Andreatch, Jr.—651
Elastic-plastic properties of iron, John W. Taylor and Melvin H. Rice—364
Equation of state of 6061-T6 aluminum at low pressures, C. D. Lundergan and Walter Herrmann—2046
Explosive-induced pressures in iron, William G. Soper and Lester A. Potteiger—1817
First-order transition temperatures in crystalline polymers, R. K. Eby—2442
Flow configurations in colliding plates: explosive bonding, George R. Cowan and Arnold H. Holtzman—928
Generation of elastic waves by transient surface heating, R. M. White—3550
Heat-transfer intensity from induction plasma flames and oxy-hydrogen flames, Thomas B. Reed—2266
Heat transfer to boiling helium, M. D. Reeber—481
Heat-wave methods for the measurement of thermal diffusivity, M. Cutler and G. T. Cheney—1902
Hugoniot equation of state of pyrolytic graphite to 300 kbars, D. G. Doran—844
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—1714
Measurement of thermal conductivity of electrical conductors at high temperatures, M. Cutler and G. T. Cheney—3420(E)
Microwave-induced pyrolytic response in ferroelectric TGS, David J. White and H. H. Wieder—2487(C)
Migration of a liquid zone through a solid: part I, W. A. Tiller—2757
Migration of a liquid zone through a solid: part II, W. A. Tiller—2763
Applicability of minimum rate of entropy production to the solidification of lamellar eutectics, W. A. Tiller—3615
Operating characteristics of Nernst refrigerators for anisotropic materials, T. C. Harman and J. M. Honig—239(C)
Optical observation of pressure induced transitions in polymers, A. Van Valkenburg and J. Powers—2433
Order and flow of liquid crystals: the cholesteric mesophase, R. S. Porter and J. F. Johnson—55
Oxygen diffusion and vaporization rates for liquid and solid germanium dioxide, T. Tokuda and W. D. Kingery—2104(C)
Physical properties of titanium. III. The specific heat, Lawrence Rozier Holland—2350
Preparation, phase-boundary energies, and thermoelectric properties of InSb–Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653

Thermodynamics and Heat Flow (*continued*)
Pulse method of measuring thermal diffusivity at high temperatures, Robert D. Cowan—926
Influence of alkali-vapor atmospheres on pyrometrically determined temperatures: cesium and potassium, M. Lapp and L. P. Harris—3622
A radiographic study of shock-loaded iron, A. S. Balchan—241
Relation of equilibrium phase-transition pressure ionic radii, V. S. Stubican and Rustum Roy—1888
Residual temperatures of shocked copper, John W. Taylor—2727
Retarded field technique for measuring sublimation from dispenser and oxide cathodes, John V. Florio—200
Solidification of lamellar eutectic systems, W. A. Tiller and R. Mrdjenovich—3639(C)
Specific heat of atactic and isotactic polypropylene and the entropy of the glass, Elio Passaglia and Hagop K. Kevorkian—90
Temperature and finite pulse-time effects in the flash method for measuring thermal diffusivity, J. A. Cape and G. W. Lehman—1909
Theory of Nernst generators and refrigerators, M. H. Norwood—594
Thermal conductivity measurements of silicon from 680° to 1000°K, Robert G. Morris and Joel J. Martin—2388
Thermal diffusivity by electron bombardment heating, M. Cerceo and H. M. Childers—1445
Thermal expansion and pyroelectricity in lead titanate zirconate and barium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Thermal expansion of indium oxide, R. L. Weiher and R. P. Ley—1833(C)
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Total emittance of rhenium, Gordon B. Gaines and Chester T. Sims—2922(C)
Transient thermal diffusivity technique for refractory solids, J. A. Cape, M. M. Nakata, and G. W. Lehman—3550
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144
X-ray diffractometer determination of the thermal expansion coefficient of aluminum near room temperature, H. M. Otte, W. G. Montague, and D. O. Welch—3149(C)

Thermoelectricity
Effects of transition metal solutes on the thermoelectric power of copper and gold, Elmer L. Christenson—1485
Efficiency calculations of thermoelectric generators with temperature varying parameters, R. W. Cohen and B. Abeles—1687
Electrical and thermal properties of electron bombarded silver selenide powders, A. S. Epstein—3641(C)
Experiments with Peltier junctions pulsed with high transient currents, M. Idnurm and K. Landecker—1806
Galvano-thermomagnetic phenomena. IV. Application to anisotropic adiabatic Nernst generators, T. C. Harman, J. M. Honig, and B. M. Tarmy—2215
Minority carrier thermoelectric cooling, W. Murray Bullis—1648
A model for a diffusive magnetothermoelectric generator, A. W. Riddiford and J. A. Krumhansl—3572
Nernst effect in *n*-type GaSb, S. J. Silverman, R. O. Carlson, and H. Ehrenreich—456
Operating characteristics of Nernst refrigerators for anisotropic materials, T. C. Harman and J. M. Honig—239(C)
Preparation, phase-boundary energies, and thermoelectric properties of InSb-Sb eutectic alloys with ordered microstructures, W. K. Liebmann and E. A. Miller—2653
Properties of Bi_2Te_3–Bi_2Se_3 alloys, G. R. Miller, Che-Yu Li, and C. W. Spencer—1398
Radiation properties of GaAs and Si solar cells, J. J. Wysocki—2915(C)
Some thermoelectric properties of polycrystalline lanthanum telluride, $LaTe_{1.7}$–$LaTe_{2.2}$, T. H. Ramsey, Hugo Steinfink, and E. J. Weiss—2917(C)
Theoretical bound on the thermoelectric figure of merit of two-band semiconductors, E. S. Rittner and G. F. Neumark—2071
Theory of galvano-thermomagnetic energy conversion devices. III. Generators constructed from anisotropic materials, T. C. Harman and J. M. Honig—189
Theory of galvano-thermomagnetic energy conversion devices V. Devices constructed from anisotropic materials, T. C. Harman, J. M. Honig, and B. M. Tarmy—2225
Theory of Nernst generators and refrigerators, M. H. Norwood—594
Theory of the longitudinally isothermal Ettingshausen cooler, C. F. Kooi, R. B. Horst, K. F. Cuff, and S. R. Hawkins—1735
Thermal expansion and pyroelectricity in lead titanate zirconate and varium titanate, W. R. Cook, Jr., D. A. Berlincourt, and F. J. Scholz—1392
Thermoelectric and thermomagnetic heat pumps, B. Varga, A. D. Reich, and J. R. Madigan—3430
Thermoelectric figure of merit in silver selenide powders, A. S. Epstein—3587
Thermoelectric properties of diphasal systems combining As_2Te_3 and Tl_2Se with Sb_2Te_3, Bi_2Te_3, or Sb_2Se_3, H. L. Uphoff and J. H. Healy—390
Thermomagnetic figure of merit: bismuth, Rudolf B. Horst—3247
Transport properties of bismuth single crystals, C. F. Gallo, B. S. Chandrasekhar, and P. H. Sutter—144

Thin Films (see Surface Physics; Magnetic Materials)

Vacuum Techniques (see Techniques and Instruments)

Various Solid Forms
Absorption measurements of ultrasonic waves in plastic sheets, Yosio Nakamura—3289
Application of the simplified cylindrical distribution function: orientation in linear polyethylene, M. E. Milberg—722
Application of the theory of paracrystals to the crystal structure analysis of polyacrylonitrile, P. H. Lindenmeyer and R. Hosemann—42
An approximate relation between elastic moduli and thermal expansivities, R. E. Barker, Jr.—107
Charged particle tracks in glass, R. L. Fleischer and P. B. Price—2903
Comments on the paper "Volume conductivity of borosilicate glass" by Julius J. Muray, A. E. Owen—705(C)
A correlation of mechanical properties and microstructure of polytetrafluoroethylene at various temperatures, C. J. Speerschneider and C. H. Li—3004
Crystal habits and morphology of *n*-tetranonacontane (n-$C_{94}H_{190}$), F. Khoury—73
Crystalline and paracrystalline order in high polymers, Rolf Hosemann—25
Crystallinity in fused silica induced by fast neutron irradiation, S. Weissmann and K. Nakajima—3152
Defect structure and density decrease in neutron-irradiated quartz, Sigmund Weissmann and Koichi Nakajima—611

Determination of fracture surface energies by the cleavage technique, J. P. Berry—62
Diffusion of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—13
Dynamic birefringence of high polymers II, R. S. Stein, S. Onogi, K. Sasaguri, and D. A. Keedy—80
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Effect of hydrostatic pressures on the crystallization kinetics of natural rubber, Gordon M. Martin and Leo Mandelkern—2312
Electron microscope observation of fission fragment tracks in plastics, A. G. Malmon—3634(C)
Electron scattering at small angles by carbon, N. H. Sarkar—2379
Electronic conduction in glass, R. C. Nelson—629
Extension of unoriented nylon 66 filaments, Malcolm F. Bender and Malcolm L. Williams—3330
First-order transition temperatures in crystalline polymers, R. K. Eby—2442
Frictional properties of polyvinyl chloride, C. L. Sieglaff and M. E. Kucsma—342
Gamma-ray induced conductivity in polyethylene and Teflon under radiation at high dose rate, Kichinosuke Yahagi and Akibumi Dano—804
Infrared spectra of polyethylene crystals, R. G. Brown —2382
Interdiffusion of gases in a low-permeability graphite. II. Influence of pressure gradients, R. B. Evans, III, G. M. Watson, and J. Truitt—2020
Ion-bombardment etching of synthetic fibers. II, Franklin R. Anderson—2371
Low-temperature internal friction in nylon-4, K. D. Lawson, J. A. Sauer, and A. E. Woodward—2492(C)
Mechanism of spall in Lucite, D. V. Keller and J. G. Trulio—172
New type of thermoplastic deformation, P. J. Cressman —2327
NMR and dilatometric studies of polyethylene recrystallization, A. Peterlin and E. Roeckl—102
Nuclear magnetic resonance studies of molecular motion in natural rubber, W. P. Slichter and D. D. Davis—98
Observations of deformation bands in amorphous polymers, Wells Whitney—3633(C)
Optical observation of pressure induced transitions in polymers, A. Van Valkenburg and J. Powers—2433
Order and flow of liquid crystals: the cholesteric mesophase, R. S. Porter and J. F. Johnson—55
Order and flow of liquid crystals: the nematic mesophase, R. S. Porter and J. F. Johnson—51
Oxygen outgassing caused by electron bombardment of glass, Jack L. Lineweaver—1786
A phenomenological theory of spherulitic crystallization, H. D. Keith and F. J. Padden, Jr.—2409
Photocontrol of growth rate of thin polymer films formed by electron bombardment, Ludwig Mayer—2088
Photoplastic recording, Joseph Gaynor and Siegfried Aftergut—2102(C)
Radio-frequency vibrations of rectangular AT-cut quartz plates, Issac Koga—2357
Rhe-optical properties of polymers. III. Dynamic polarized light scattering, D. G. LeGrand and P. F. Erhardt —68
Rupture of foam by nuclear ionized particles, Ryuhei Kato and Toshihiko Kōno—708(C)
Solution of gases in polyethylene terephthalate, A. S. Michaels, W. R. Vieth, and J. A. Barrie—1
Some integrals occurring in the theory of rubber viscosity, Joseph A. Faucher—237(C)
Specific heat of atactic and isotactic polypropylene and the entropy of the glass, Elio Passaglia and Hagop K. Kevorkian—90
Vibration of sphere for determining the dilational constants of visc astic materials, Tung-Ming Lee—2150
Viscoelasticity polymer solutions at high pressures and ultrasonic fr quencies, W. Philippoff—1507
Viscous flow and melt allotropy of phosphorus pentoxide, R. L. Cormia, J. D. Mackenzie, and D. Turnbull—2245
Wide-line nuclear magnetic resonance studies of poly (ethylene terephthalate), C. A. Boye and V. W. Goodlett—59

Vibrations and Acoustics

Absorption measurements of ultrasonic waves in plastic sheets, Yosio Nakamura—3289
Analysis of noise from magnetic storage media, Irving Stein—1976
A comparison of the elastic constants of chromium as determined from diffuse x-ray and ultrasonic techniques, Ali Sumer and J. F. Smith—2691
Damping spectrum of iron, D. P. Petarra and D. N. Beshers—2739
Decay of elastic precursor waves, Paul Harris—3405(C)
Diffusion layer ultrasonic transducer, N. F. Foster—990
Effect of fast-neutron irradiation on the pressure and temperature dependence of the elastic moduli of SiO_2 glass, R. E. Strakna, A. E. Clark, D. L. Bradley, and W. M. Slie—1439
Effect of low-temperature phase changes on the mechanical properties of alloys near composition TiNi, W. J. Beuhler, J. V. Gilfrich, and R. C. Wiley—1475
Elastic constants of pyrite, Gene Simmons and Francis Birch—2736
Elastic constants of synthetic sapphire at 27°C, B. T. Bernstein—169
Elastic constants of thallium single crystals in the temperature range 4.2°–300°K, R. W. Ferris, M. L. Shepard, and J. F. Smith—768
Elastic constants of UC, L. J. Graham, N. Nadler, and R. Chang—1572(C)
Elastic moduli of germanium versus hydrostatic pressure at 25.0°C and −195.8°C, H. J. McSkimin and P. Andreatch, Jr.—651
Generation of microwave elastic vibrations in a disk by ferromagnetic resonance, R. L. Comstock and R. C. LeCraw—3022
Internal friction in beryllium, Choh-Yi Ang and Kenneth T. Kamber—3405(C)
Internal friction in the tantalum–hydrogen system, Per Kofstad and Richard A. Butera—1517
Magnetic-field dependence of the acoustoelectric effect, Nobuo Mikoshiba—510
Method of determining dynamic properties of viscoelastic solids employing forced vibration, Tung-Ming Lee—1524
Microwave elastic properties and nonmagnetic garnets, E. G. Spencer, R. T. Denton, T. B. Bateman, W. B. Snow, and L. G. Van Uitert—3059
Nonhydrodynamic attenuation of shock waves in aluminum, Donald R. Curran—2677
Parametric coupling of the magnetization and strain in a ferrimagnet. I. Parametric excitation of magnetostatic and elastic modes, R. L. Comstock and B. A. Auld —1461
Parametric coupling of the magnetization and strain in a ferrimagnet. II. Parametric excitation of magnetic and elastic plane waves, R. L. Comstock—1465

Vibrations and Acoustics (*continued*)
Polar properties of BeO single crystals, S. B. Austerman, D. A. Berlincourt, and H. H. A. Krueger—339
Radio-frequency vibrations of rectangular AT-cut quartz plates, Issac Koga—2357
Rayleigh and stochastic scattering of ultrasonic waves in steel, Emmanuel P. Papadakis—265
Reflection and refraction of mechanical waves at solid–liquid boundaries, Walter G. Mayer—909
Reflection and refraction of mechanical waves at solid–liquid boundaries. II, Walter G. Mayer—3287
Scattering of plane compressional waves by a spherical obstacle, Yih-Hsing Pao and C. C. Mow—493
Study of dislocation relaxation peaks in gold and copper, S. Okuda—3107
Thermally activated dislocation kink motion in silicon, P. D. Southgate and A. E. Attard—855
Ultrasonic amplification and non-Ohmic behavior in CdS and ZnO, J. H. McFee—1548
Ultrasonic attenuation in single-crystal cadmium, G. Abowitz—1503
Ultrasonic-diffraction shutters for optical maser oscillators, A. J. DeMaria—2984
Ultrasonic internal conical refraction in rocksalt and calcite, Emmanuel P. Papadakis—2168
Ultrasonic-refraction shutter for optical maser oscillators, A. J. DeMaria, R. Gagosz, and G. Barnard—453
Vibration of sphere for determining the dilational constants of viscoelastic materials, Tung-Ming Lee—2150
Viscoelasticity of polymer solutions at high pressures and ultrasonic frequencies, W. Philippoff—1507
Weinreich relation in the presence of dc electric and magnetic fields, Harold N. Spector—3628(C)
Viscosity and Viscoelasticity (see Gaseous and Liquid States)